United States Court of Appeals
for the
District of Columbia Circuit

TRANSCRIPT OF
RECORD

BRIEF FOR APPELLANTS.

United States Court of Appeals

For the District of Columbia.

Appeal No. 10,208. 181

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER, *et al.*,
Plaintiffs-Appellants,

v.

John A. Marzall ~~LAWRENCE C. KINGSLAND~~, Commissioner of Patents,
Defendant-Appellee.

Appeal From Judgment of United States District Court for the District of Columbia.

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UNITED STATES
COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA
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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA,

Appeal No. 10,208.

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER, and CUTTING ROOM APPLIANCES CORP.,
Plaintiffs-Appellants,

v.

LAWRENCE C. KINGSLAND, Commissioner of Patents,
Defendant-Appellee.

BRIEF FOR APPELLANTS.

This is an appeal by the plaintiffs-appellants from a judgment of the United States District Court for the District of Columbia, dismissing the complaint of plaintiffs, brought under R. S. §4915, to compel the Commissioner of Patents, defendant-appellee, to issue a patent for certain claims of an application now pending before the United States Patent Office. Claims 36, 38, 40, 42, 48 to 55, and 58 to 63, both inclusive, 71, and 74 to 79, inclusive, were before the District Court. Claims 48, 71 and 75 were withdrawn there. Appellants now withdraw claims 36, 38, 40 and 42, leaving claims 49 to 55, and 58 to 63, both inclusive, 74, 76, 77, 78 and 79 for consideration on this appeal.

I. Jurisdiction.

Jurisdiction of the United States District Court arises out of R. S. §4915 (Act of February 9, 1893, c. 74, §9, 27 Stat. 436; Act of March 2, 1927, c. 273, §11, 44 Stat. 1336; Act of March 2, 1929, c. 488, §2 [b], 45 Stat. 1476; Act of August 5, 1939, c. 451, §4, 53 Stat. 1212; U. S. C. Title 35, §63), for an action to compel the Commissioner of Patents to issue letters patent for certain claims refused by the Examiners of the United States Patent Office, where the Board of Appeals of the U. S. Patent Office had affirmed the action of the examiners.

This Court has jurisdiction of appeals from the United States District Court for the District Court for the District of Columbia (Act of June 25, 1948, c. 646, 62 Stat. ; U. S. C. Title 28, §§ 41, 1294).

The complaint and answer herein have been superseded by the amended complaint and the answer to the amended complaint, which are reproduced (Appellants' App. 4-22). In the amended complaint, jurisdiction of the District Court was recited generally (Appellants' App. 4), and was admitted by appellee in his answer (Appellants' App. 20).

II. Statements of Case.

The application, Serial No. 370,784, filed by joint inventors, who are the nominal parties plaintiffs and appellants here, was assigned regularly to the corporate appellant. It is intended to discuss the invention involved more specifically in the argument. That there is invention involved is evidenced by the fact that the examiner has admitted patentability of forty-one claims.

Certain other claims, under final rejection before the filing of a notice of appeal (Appellants' App. 112) to the

Board of Appeals of the U. S. Patent Office on December 12, 1944, are offered for consideration on this appeal. Certain proceedings were had with the examiner in an attempt to expedite the application after final rejection. There is a difference of opinion between counsel and the examiner as to the facts there involved; however, only in so far as this dispute has a bearing on a right to be heard on certain claims will those facts be alluded to.

The examiner, in his supplementary statement to the Board of Appeals (Appellants' App. 134) refers to a tentative agreement as to an amendment to place the application in condition for allowance. In that supplementary statement he considers the patentability of claims 58 to 63. On the basis of that consideration, appellants submit those claims were properly before the Board of Appeals and the District Court, and are now properly presented for consideration here on the question of patentability.

The Board of Appeals affirmed the examiner in part, and reversed him in part (Appellants' App. 138). A motion was made for reconsideration. That motion was denied by the Board of Appeals (Appellants' App. 143).

Thereafter, after a conference with the examiner, seven other claims were agreed upon between counsel and the examiner, and allowed, but with the express understanding that appellants did not waive their right of further review in this proceeding then pending (Appellants' App. 145-152).

The examiner accepted these claims by an official letter dated December 17, 1946 (Appellants' App. 153), after this suit had been filed. In that official letter, he failed to dispose of claims 36, 38, 40 and 42 upon which he had been reversed (Appellants' App. 142); therefore, counsel for appellants requested a formal statement regarding claims 36, 38, 40 and 42 (Appellants' App. 154). When the examiner did not take action, a further request was made (Appellants' App. 156). Thereupon, the examiner refused to take action, seeking to postpone action until after this suit was determined.

Counsel insisted on a final conclusion so that all issues be determined in this suit. From this, grew out the second appeal to the Board of Appeals (Appellants' App. 158-164)), with the decision (Appellants' App. 177) affirming the examiner upon which this suit is in part founded. However, before the final appeal, the examiner had reopened the case to enter additional claims 71 to 79, although still refusing entry of claims 58 to 63 which had been presented for his consideration and were considered by him on the first appeal; he had also allowed claim 72.

III. Statement of Points.

1. The mere fact, that the Board of Appeals refused to consider claims 58 to 63, does not deprive the District Court of jurisdiction to consider those claims, since, under R. S. §4915, that Court has the right to consider any phase of the case before the Commissioner, *de novo,* however that issue may now be presented.

2. Aside from the rights of the District Court to consider the issues *de novo,* there is present, in the case at bar, the fact that the examiner had given full consideration to the claims in his supplementary statement on appeal to the Board of Appeals (Appellants' App. 134); that the Board of Appeals thereafter dismissed the appeal does not make this the less error; it is one of the erros which caused the bringing of the proceeding under R. S. §4915.

3. Appellants' rights should not be destroyed because the Board of Appeals used the words, "dismiss the appeal," rather than the words, "affirm the examiner in his position that the claims are not patentable."

4. The case of *Lucke v. Coe,* 63 App. D. C. 61, 63, 69 F. 2d 379, has no application to the case at bar since the examiner, in the instant case, had, in fact, considered the claims in full in his statement to the Board of Appeals, and did not pin his position against those claims upon the bare argument that he had refused to enter the amendment containing those claims (Appellants' App. 135).

5. The reference patent to Sussman, 1,257,421, does not teach the invention of appellants' claims 49 to 55, and 58 to 63, both inclusive, in suit, nor can it produce the results of appellants' claimed structure.

6. The Isaacs patent, 819,548, better referred to as "the Isaacs 819 patent," is completely inoperative, and indeed was accepted by the solicitor for appellee as inoperative; and since the Isaacs 819 patent was the base reference asserted against many essentials of the claimed combinations, the argument for rejection breaks down.

7. The Isaacs 819 patent does not have the structure of the claims, and cannot produce the result of appellants' claimed structure.

8. The Isaacs patent No. 1,338,570, better identified herein as "the Isaacs 1338 patent," is inoperative to produce the results of appellants' claimed structure.

9. The findings of fact by the District Court fail to incorporate the defects in the reference patents admitted by the solicitor for appellee.

10. For claims 74, and 76, 77, 78 and 79, the references fail to disclose the invention claimed.

11. The structures of the references must be combined, according to appellee, in order to produce the structure necessary to anticipate claims 74, 76, 77, 78 and 79, but the alleged combination is not a mere substitution, but is complete reconstruction of the references, without suggestion in either reference for any such change, the only suggestion being obtained from appellants' structure.

12. The patent to Cutter, relied upon against claims 74, 76, 77, 78 and 79, is inoperative and may not be utilized for anticipatory purposes.

IV. Summary of Argument.

1. As to jurisdiction, appellants argue (a) that the District Court has the right to reconsider any action of the Patent Office, including a refusal to enter claims, where the question, as here, is wholly on the merits of the claims, where the question presented is not one of procedure, but whether the claims are patentable; and (b) that, since the examiner actually did consider the merits of those claims, they actually are in the application, so that the mere use of words such as "does not enter the amendment," or "dismiss the appeal," does not prejudice appellants' right to have those claims considered on the question of patentability here; and (c) that the decision in *Lucke v. Coe,* 63 App. D. C. 61, 63, is in full accord with this proposition.

2. As to the merits of the claims:

(a) Generally, that the references fail completely to anticipate the claimed structures, and do not have the functions of the claimed structures.

(b) That the references actually are inoperative, not merely to produce the functions, but, as in the Isaacs 819 patent and the Cutter patent, completely inoperative to produce any result, and there is nothing in the record to show how the defects of those references can be cured.

(c) The solicitor for appellee, in his brief before the District Court, admitted the inoperativeness of the Isaacs 819 patent.

(d) The findings of fact, approved by the District Court, are contrary to the evidence.

V. Argument.

A. Jurisdiction.

In considering the question of whether the District Court should have considered claims 58 to 63, the proceedings in the Patent Office are important (Plaintiffs' Exhibit 1). It was not considered necessary to reprint these voluminous papers which show the various steps in the Patent Office up to the trial of this case; only certain of those papers have been printed as the appendix. The record speaks of attempts amicably to reach a conclusion in the application; the allowance of forty-one claims shows that appellants have made a substantial invention. Many difficulties interfered with a speedy conclusion, whether it was travel in wartime, or the location of the Patent Office in Richmond, rather than at Washington, or the absence of the examiner from his division at the critical occasion when counsel was at the Patent Office and time for appeal was running out; all militated against effecting a complete conclusion of prosecution before the notice of appeal had to be filed to keep the application from becoming abandoned.

The examiner states his recollection of the facts (Appellants' App. 135); as to this, there is some disagreement. The important point, however, is that, in that supplemental statement, the examiner considers the patentability of claims 58 to 63. Clearly, therefore, these claims were given careful consideration by the examiner just as much as claims 56 and 57 which, in that statement, he concedes to be patentable. Thus, the examiner, while he stated in words that he refused to enter that amendment, did everything which he would have done if he had entered the amendment, when he wrote a comprehensive supplementary statement to support his position that those claims were unpatentable. Therefore, the examiner gave the full and complete consideration to these claims which the Court requires for its guidance in a suit of this nature; certainly he gave those claims the same consideration as he did to the other claims on the appeal which had formally been anointed as "entered," which "entered" claims are in the application beyond his power to refuse them consideration. Thus, in this case, the only difference, so far as this Court is concerned, between the two sets of claims is that, in one case, he said, "they are entered," and in the other case, he said, "they are not entered." In both cases, he fully considered them, and the transcript of record presents them to the Court.

There is nothing in the statutes which divests the District Court of jurisdiction in the one case, and vests it with jurisdiction in the other case. In both cases, the Patent Office has refused to grant the claims as part of letters patent because the Patent Office asserts they are unpatentable. Both sets of claims received the same consideration by the examiner for the appeal to the Board of Appeals. These claims thus were not new to the case when the suit was filed. The claims were fully discussed by appellants before the Board of Appeals (Transcript, Plaintiffs' Exhibit 1, brief for applicants, filed Jan. 11, 1946, and brief for applicants, filed June 16, 1948). Certainly the Board of Appeals must have given consideration to the claims in view of the examiner's own argument, and that by appellants. But the Board chose to use the words, "dismiss the appeal," rather than to affirm the examiner on the question of patentability. Certainly this act on their part cannot divest the District Court of the power to consider those claims, or appellants of the right to have those claims considered.

Furthermore, by the prosecution of the application after the first decision by the Board of Appeals, it is submitted that the examiner reopened the prosecution of the application, and that he should have applied the magic word, "entered," to claims 58 to 63, as he did to claims 64 to 79 (Tr. Plaintiffs' Exhibit 1, papers including and following amendment filed September 25, 1946).

It is, therefore, submitted that, on all counts, the District Court erred in refusing to consider claims 58 to 63, on the basis that they had theretofore not been considered by the officials of the Patent Office, for the reason that they had been considered in full at the different levels of the Patent Office, and that the Court has before it, the consideration of the Patent Office mentioned in the different decisions as the criterion for its acceptance for consideration of claims 58 to 63.

Lucke v. Coe, has no application to the facts of the instant case. Claims 58 to 63 were of record before the Patent Office, and were considered on the merits by the examiner so that this Court has the benefit of the Patent Office's considered opinion. The facts of the case are contrary to any assumption that the claims are before this Court *de novo.* In a suit of this nature, appellants should have a right to have considered each and every claim which was presented and considered in the Patent Office, regardless of any technicality as to "entry" or "nonentry" for which there is no statutory precedent.

In addition, many cases illustrate that there is no ironbound practice denying further relief after the words, "final rejection," or "not entered," have been used. The Board of Appeals suggested changes to place the claims in allowable condition, in *ex parte Miles, et al.,* 7 U. S. P. Q. 18; *ex parte Cofrin,* 8 U. S. P. Q. 273; *ex parte Brown,* 19 U. S. P. Q. 119; *ex parte Bruijnes,* 25 U. S. P. Q. 22; *ex parte Howarth,* 26 U. S. P. Q. 334; *ex parte Lawrence, et al.,* 30 U. S. P. Q. 325, 326; the Board wrote the claim in *ex parte Strasburger,* 22 U. S. P. Q. 365; *ex parte Pfleger,* 27 U. S. P. Q. 50. The proposed claim was presented only before the Board; the Board affirmed the examiner, but recommended that the claim be allowed, in the absence of more pertinent art. *Ex parte Hart,* 14 U. S. P. Q. 57. A case substantially on "all fours" with the case at bar is *ex parte Sola,* 41 U. S. P. Q. 627, 628, 629, where the examiner said the proposed claim was just as bad as the claim on appeal, but the Board thought otherwise. In *ex parte Lehman, et al.,* 41 U. S. P. Q. 151, the Board said that since the proposed claims were more limited than the finally rejected claims, no reason for refusing entry appeared, and that the claims were deemed allowable. In *ex parte Falge, et al.,* 34 U. S. P. Q. 171, 172, the proposed amendment was offered to the Board, its entry was recommended, and the Board proceeded to suggest other changes.

There are many cases along these lines; it is submitted that appellants are not foreclosed merely by the particular words used by the Board of Appeals as to these claims. They gave no more extended or informative consideration to the claims the appeal for which they did not "dismiss."

B. The Invention.

The invention to be considered may more satisfactorily be divided, for discussion, into:

1. That concerned with the combination of the so-called "catcher" and so-called "box," particularly in relation to the fact that, at the limit of movement of the carriage, the catcher moves *into* the box and clamps the fabric within the box.

2. That concerned with a sprocket and chain arrangement for lifting the box to its different positions for forming different layers, and mechanism for accomplishing this result automatically as the carriage moves back and forth over the table.

Combination of Catcher and Box.

In the first category are claims 49 to 55, and 58 to 63, both inclusive. The argument by appellee, that claims 58 to 63 are not properly before the Court, has already been disposed of.

C. The Invention: Appellants' Machine.

Applicants' machine (Appellants' App. 85-101) is for the general purpose of spreading on a cutting table, from bulk material, successive superimposed layers of fabric, all layers of substantially identical extent, and thus to provide for cutting large numbers of identical pieces from a single pattern marking, for manufacturing substantially identical garments or like goods. In present day factories, these tables are of great length, and such spreading apparatus must be operated to conserve every possible portion of the material, as, for instance, at the ends.

A bolt or other bulk supply of the material, illustrated at 16 (Appellants' App. 101, Fig. 1), is disposed on a carriage 12 movable on a table 14, and guided by a flanged wheel 30 running on a rail 34 as the carriage is moved either by hand or by motor. The fabric is led through suitable guides down to a fold forming means or box 44 (Figs. 2, 3, 6, 9 and 11). The box (Fig. 11) includes a pair of arms 70, substantially parallel to each other and to the table itself, and forming a U. The fabric passes down through a slot 72 between arms 70, and moving over arms 70, is laid down flat upon the table, leaving the blade substantially parallel to the table.

The layer, stretched out on the table to a specific length, must be pinned down, since, if the box were moved back from this end position without pinning the fabric, the layer would be pulled, the fold just formed distorted, and, of course, the length of the layer shortened.

Apparatus 220, termed "gripping means" in the claims, and known to the witness and in the trade as the "catcher," is utilized.

The specific mechanism of the catcher of this application, by which vertical movement of bars 256 and 288 is obtained, which has been defined in some of the allowed claims, need not be detailed here, except that bars 256 and 288 are mounted on bars 260 and controlled by a linkage, consisting of a member 286, links 284 and other members, so that both bars 256 and 288 will always be substantially parallel to the surface of the table; that is, the bottom face of bar 288, no matter what vertical position bar 288 may assume when brought into contact with the fabric, will be substantially parallel to the table and, therefore, to the layers on the table; it will always have substantially the identical relationship to whatever end fold has been formed; and bar 288 will move in a vertical plane.

As box 44 is brought to an end of the table to complete the formation of a layer, it approaches the catcher 220 at that end of the table. Bar 260 of that catcher has a roller 254. There may be rollers at either end of bar 256; as shown (Fig. 12), there is a roller only at one end. That roller is in position to be engaged upon an arm 244, or, as the witness calls it (Appellants' App. 40), a finger 244, which is carried by and always moves with box 44. Fingers 244 extend from and are pivotally mounted on members 238 (Fig. 9) which have a fixed relation to the block 66 upon which box 44 is mounted.

Roller 254 rides up on finger 244, and across the small gap (Figs. 9 and 10) at the upper end of finger 244 and onto lug 258. Lug 258 (Figs. 9 and 11), midway between the arms 70 of box 44, rotates with the box. The roller 254, carrying bars 256 and 288, comes onto lug 258, and moves with the bars further into the box as the carriage continues to move. When the carriage finally is halted by an end stop (member 218 at the left-hand end of Fig. 1, or 128 at the right-hand end of Fig. 1), roller 254 has just reached and is falling over the end of lug 258.

At that time, the parts of the catcher are in the position of the full lines of Fig. 15. Bar 288 is in its lowermost position determined by the engagement of pins 290 against bar 256. The points 297 of pins 294 are guarded within the openings 296 of bar 288. Bar 288 is a very small distance above the layer of cloth on the blade 70, shown by the two outline lines in Fig. 11. When roller 254 falls over the end of lug 258, bar 288 immediately comes to rest upon that layer on the immediately adjacent arm 70, and immediately clamps the fabric in that position. Bar 256 continues to fall, guided by pins 290, until pins 294 are at rest in the fabric. Fig. 15 is drawn to appear as if bar 288 moves upwardly, and the position of bar 288 and pin 290 with relation to bar 256 and pins 294 is shown by the dot-and-dash lines. In practice, of course, bar 256 moves downwardly, carrying pins 294 with it. In essence, the movements are relatively the same. Pins 297 now grab the fabric, and hold the fold against any further movement.

The movement of the apparatus in one direction is now complete. The carriage is now reversed in its movement, and the box moved away from the end position, to form a fold in the opposite direction. The blade 70 which has just formed a fold, and upon which bar 288 rests, slides out of the fold. Pins 294 hold the fabric against the pulling action of the friction of blade 70. As the blade finally clears the fold completely, bar 288, together with the accompanying apparatus, moves downwardly the very small distance of the thickness of blade 70 (Fig. 11), not more than an eighth of an inch (Appellants' App. 41-42). Fingers 244 are so hung that roller 254 may pass by the under side of finger 244, lifting it slightly away from its stop as the parts move past each other.

Throughout this operation, bars 256 and 288 are always parallel to each other, and to the table. No matter what the elevation of box 44 may be, roller 254 moves into the box, between the two blades 70, and always co-operates with the box by passing over the end of the same lug 258, to fall into identically the same position at every end position in the formation of layers. No matter how high the fabric may be piled, no matter how high fingers 244 may lift roller 254 and the bars associated therewith, the same identical length of layer must be determined as the clamp bar and the blade 70 must always have the same identical relationship at the moment the bars fall off the lug upon the fabric on the blade, as the carriage has the same length of travel and the catcher and the box co-operate at the identical position lengthwise of the table.

As carriage 10 moves away from the position where the fold just formed has been clamped in place, box 44 continues to point in the same direction, trailing the fabric behind it, under such tensions as are usually incident to such pulling action. As the carriage approaches the other limit of movement, a bar 212 (Fig. 1), which extends from the carriage, engages against a stop on frame 220. Through mechanism which need not here be discussed, but which includes arm 230 (Fig. 3), the pantograph visible in Fig. 1, and links 158 and 160, the box is rotated on its pivots to present the other one of the blades 70 to the lower position for forming a fold for delivery to the catcher at the other end of the table. This reversal of the box occurs just as the roller 254 of the catcher at that end commences to ride up the related finger 244. The structure of the catcher 220 at the left-hand end of the table is low enough so that the carriage may pass over it (Fig. 1) so that its roller may engage the finger 244 at the end of the carriage away from that particular catcher. Lug 258 retains its identical medial position, with the box reversed, and fingers 244 remain in the same relation to lug 258, after this reversal takes place.

It has been attempted to make clear that appellants' apparatus has a U-shaped member 44, consisting of two distinct blades 70, carried together, moving together, and rotating together, to present, first, one blade, and then, the other blade, according to the direction of movement of the carriage, for the formation of a fold, first, in one direction, and then, in the other direction, and for co-operation with the respective catchers at the opposite ends of the table in laying down folds of a predetermined length, and in retaining those folds in that particular length. The lengths will always be the same since the catchers at each end of the table, which must move perpendicularly to the table, necessarily will always ride into the box at exactly the same position lengthwise of the table and fall over the lug 258 in exactly the same position of the carriage lengthwise of the table, determined by the constantly set end stops.

Among the definite benefits derived from appellants' machine are: (a) the production of layers of fabric all accurately the same in length, regardless of the level to which the fabric may be piled at any time; (b) no tearing of the fabric as the catcher pins move in and out of the fabric at the end position since they must move perpendicularly to the fabric; (c) the apparatus unquestionably works, at least 6500 (Appellants' App. 30) of these machines having been sold for use throughout the world; and (d) the minute displacement of the gripping means at the last portion of the motion, being entirely within the box, eliminates any possibility of fabric creep in the small time interval between completion of the layer extension and the clamping of the layer as so extended.

Among the reasons for such effectiveness are: (a) the fact that the catcher bar moves directly into the box, between the two blades, and free of engagement with either of the blades, and does not come into contact with or clamp the fabric until the box reaches the very end of the movement in the formation of the fold; (b) the bar falls into position upon the lower blade of the box while wholly within the box to clamp the fabric in position; (c) a single unit is used for forming folds in both directions, and for association in guiding the catcher bar into the fold former; (d) the guide means to assure this operation are carried directly by the box, move with the box at all times, and maintain a constant relationship to the box, and to the blades of the box, so that no matter what the position of the box may be, the delivery of the catcher bar to the box is always identically the same at the critical moment of the formation of the end of the fold when it is clamped in that end position.

D. Prior Art Patent relied upon by Patent Office as to catcher and box.

The references relied upon by the Patent Office, in connection with this particular phase of the invention, are (Appellants' App. 21, 44):

C. J. Sussman and T. A. Hill	1,257,421	February 26, 1918
M. Isaacs and M. Pellar	819,548	May 1, 1906
M. Isaacs	1,338,570	April 27, 1920

These patents will be considered individually. The first patent has already been designated "the Sussman patent"; the second patent, "the Isaacs 819 patent," and the third patent, "the Isaacs 1338 patent."

The Sussman Patent.

In the Sussman patent (Appellants' App. 184-185, Fig. 1), the carriage 14 rolls along a table 13, and has a box (the two blades 22 and 23 in Fig. 1). These blades (Fig. 6) are not parallel to each other, nor to the surface over which the carriage moves. The line of the fabric fed through the box is shown as entering through the wide end of the box (Fig. 2, the very small part at the very lower end of the screw, where the dotted line representing the fabric passes through the open end of the box), then as leaving through the narrow end of the box, and then finally as moving at an angle downwardly to catcher pins 57. This box is rotated into its two positions by mechanism not too clearly shown, but apparently including gears 28 driven by a rack bar 31 (Fig. 1), which engages against a stop at the limit of movement of the carriage to effect this reversing operation. The box is elevated by mechanism not too clearly described, but, apparently, a step-by-step mechanism driving a bevel gear 36 (Fig. 1) to turn a screw 32 for lifting the box carrying members.

Catchers (Fig. 2) at the limits of movement are shown by bars 46 and 47. At the end of each bar are members, indicated as 50 and 51, which obviously are pins. The pins have been accepted by the Examiner as fixed to the bar. A roller 48, at the end of the bar, is engaged by the finger 53 as the carriage approaches that end of its travel, and rides up the finger to the position 56 (Fig. 2) high above, and completely separated from the box, lifting pins 57 free of the fabric. Roller 48 at this point 56 falls with the bar and the pins over the end of finger 53 and downwardly through space until it crashes to a stop upon the top surface of the upper blade of the box.

Whether it is the front end of the bar carrying the pins, or some other portion of the bar, which engages the blade is not clarified by the patent. Pins 57, however, must be long enough (Figs. 2 and 6) to extend from the top surface of the top blade, past that blade, and down past the open mouth of the box in order to engage that layer of fabric which is then extending over the front edge of the upwardly directed lower blade (22 in Fig. 6). The pins must be at least longer than the vertical distance from the lowest point of the box to the top face of the top blade at the narrow end if they are to engage the fabric and hold it in position.

Furthermore, arm 46 is mounted upon a fixed pivot. As shown by Exhibit 3 (Appellants' App. 186; 49, *et seq.*), this type of a mounting necessarily produces a different relation between pins 57 and the box at the various vertical positions of the box. In Exhibit 3, the middle line represents the position when bar 47 would be parallel to the table; the bottom line, when the bar is at its lowermost position; the other line, when the bar has engagement with the goods piled up to a considerable degree. The pin ends engage the fabric, in the lower position, at least one and a half spaces from the horizontal position of the pin ends when the bar is absolutely horizontal. Each space on the paper on which Exhibit 3 was drawn is one-eighth of an inch. That means that, for this position, the degree of accuracy for the lowermost position as against the middle position is three-sixteenths of an inch (Appellants' App. 51). In the uppermost position, the difference from the horizontal is four spaces, or one-half of an inch.

Exhibit 3 clearly demonstrates that error in the lengths of the layers must result when using apparatus of this type, and is related to the amount the bar must fall from the uppermost limit of fingers 53 down to the box. Fingers 53 are fixedly related to the carriage. The box, on the other hand, is lifted as the layers increase.

Therefore, this constantly changing relationship between the box and lifting fingers 53 is constantly varying the length of the layers being successively pinned down.

The pins which are perpendicular to bar 46 (Exhibit 3, the short lines perpendicular to the long lines, at their ends represent the pins, the long lines, bar 46) are themselves in a different angular position to the horizontal for every position of the bar. At the lowermost position, when the carriage moves to the left to leave the catcher, the pins point away from the direction of movement of the carriage. When those pins move in and out of the layers into which they become imbedded, the fibers of the fabric will be crowded in one direction, producing either distortion or actual tearing of the fibers. This is true in all positions other than the true horizontal position.

In those cases where the bar and pins are above the horizontal position of the intermediate line, the pins point in the direction in which the carriage is moving away from the catcher. After the pins catch the layer on the box, and as the box moves away from the catcher, the box, of course, pulls the fabric. Unless the pinning is secure, as it is in Fig. 11 of appellants' drawings (Appellants' App. 101), the fabric will tend to pull off the pins. The angular position shown by the topmost position in Exhibit 3 is obviously conducive to that result. The fabric layer, caught by the pins, will tend to slide off the pins in the direction in which the carriage is pulling it (Appellants' App. 52).

Thus it is obvious that the Sussman patent

(a) does not move the catcher *into* the box under any possible interpretation;

(b) does not move the catcher bar between the blades of a U-shaped member;

(c) does not deliver the bar end with its pins into the same relationship to the box at every level to which the box is lifted;

(d) does not maintain fingers 53 in a constant relationship to the box for every position to which the box is moved.

In the Sussman patent

(a) the blades are non-parallel and cannot deliver the fabric parallel to the table surface;

(b) the catcher bar lifts up to the same level, far *above* the box, no matter what the level to which the box has been lifted, and that catcher bar drops a different distance for each box position, and on top of the box and not *into* the box, so that different relationships between the end of the bar and the box result for every position of the box;

(c) the bar has different degrees of travel for every level of the box;

(d) the bar and its pins follow an arcuate path, so that angular relationship of the pins to the fabric varies, and in some of those relationships the fabric is induced to release from the pins when it should be retained;

(e) the pins and bars are so related that the length of the layers laid down will be different for every position of the box;

(f) the pins have a tearing effect upon the fabric when moved into and out of engagement with the fabric.

The Isaacs 819 Patent.

The Examiner made much of the Isaacs 819 patent in his argument (Appellants' App. 127, 132, 133, 184-185) before the Board of Appeals. The appellee, before the

District Court, would like to ignore that reference. The Board of Appeals merely said it was "radically different" from appellants' structure (Appellants' App. 142). As will be pointed out, this patent also is inoperative to produce any result, and has no structure embodying the principles of appellants' structure.

In the Isaacs 819 patent, a carriage moves along a table, and carries two distinct fold formers 26, 27, or, as they are termed in the specification, fabric-carrying bars. Each fold former operates independently of the other, and is not connected to the other, and each of them requires special mechanism to get it out of the way of the other at points in their operation.

These fabric-carrying bars 37 (Fig. 2) or 27 (Fig. 10) are wedge-shaped in cross-section (Fig. 10). Each has three rods 28 extending upwardly therefrom (Fig. 9) at spaced position along its length. The rods 28 are pivoted to the carriage in a manner not too clearly shown (Fig. 1; no reference character is applied).

In Fig. 2, where the carriage is intended to be moving toward the left, the fabric passes down along guides to the right-hand one of the fold-carrying members. As the apparatus approaches stop 43, the left-hand one of the fabric-carrying members must be lifted away from the fabric by engagement between cams 35 and 46 (Fig. 1), to avoid disaster from possible collision. Thus the left-hand fabric-carrying member is moved wholly independently of, and as a unit distinctly separate from, the right-hand fabric-carrying member.

The specification seems to imply that there is a conjunction between the folder 26 and toothed member 47 (shown in enlargement in Fig. 6) (patent, p. 2, ll. 42-45) as the two move into proximity to each other. Finger 55 (patent, p. 2, ll. 91-95) at the end of an arm 54 secured

(Fig. 1) at the very edges of gripping means 39 rides up on narrow cams 36 at the very edges of fabric-carrying members 27. Member 36 (Fig. 6) is shown to rise above, and, therefore, actually is clear of the top surface of member 26 (in Fig. 6, reference character 36 is directed to the top surface of member 26; this apparently is an error since, in Figs. 2 and 9, member 36 is the cam member, and not the surface of the fabric-carrying member; the specification bears this out) (Appellants' App. 62).

Now the patent states (*supra*) that finger 55 will ride up on came plate 36 until it reaches the end of cam plate 36, and then fall over the end of that cam plate. Then supposedly (Fig. 6) member 47 will engage and hold the fabric against some surface; according to Fig. 6, this is the surface of cam 36. This cannot be correct (Appellants' App. 62-63).

There are so many suppositions that follow from these drawings, no one of which can be accepted as productive of an operative structure, that the whole apparatus must have been a figment of the imagination of some unqualified draftsman.

(a) For instance, member 39 (Fig. 9) is shown of the same width as member 27 which includes cam plate 36. Now if the fingers 55 are to fall over the end of cam 36, there must be no supporting material of member 39 in line with cam 36 at that time. But that is not true, according to Fig. 9. Both member 54 and member 39 would prevent such a drop (Appellants' App. 61-62).

(b) According to the patent (Figs. 6 and 9, Plaintiffs' Exhibit 5, Appellants' App. 190-191), member 54 has a width which would overlap member 36. This is clearly shown in the bottommost figure of Exhibit 5. Therefore, it would be impossible for member 55 to pass by member

36. Regardless of the length of the groove or cut-out between the end of member 54 and pin 55, the member 54 would come to rest bodily upon member 36 (Appellants' App. 61). In Fig. 9, member 36 is of less width than member 54, and the inner edge of the cut-out must necessarily be over the body of member 36. Therefore, it is impossible to secure the result shown in Fig. 6, since there would be no opening provided to function as shown in that figure. The body of member 54 would come to rest directly upon member 36 and would not fall below that level. Yet the District Court found (Appellants' App. 26, finding 11) that the Isaacs 819 patent is operative so far as the end stop mechanism and the elevating means are concerned. If these premises just stated are true, the end stop mechanism can never be effective; the folding mechanism elevating means cannot function.

(c) Note that metal between the end of member 39 and fingers 54 is within the extent of cam 36. That metal could not go through the cam; it must come to rest upon the cam. Fig. 6 attempts to say it would go through the cam. Obviously, this is impossible (Appellants' App. 61-63). Again the finding cannot be supported.

(d) Member 47 is shown resting, not upon the upper surface of member 26 (Fig. 6), but upon cam 36. If the fabric is to be held by member 47, it must be gripped against the surface of member 26, not against the small extent of cams 36. When member 47 (indicated by the different dotted lines in Exhibit 5) is long enough to overlap member 36, it certainly would be kept away from and would not rest on member 26. If member 47 were not long enough to rest upon member 36, then it certainly could not engage fabric on member 36, and member 39, resting on member 36, would keep member 47 away from contact with any fabric on member 26 (Appellants' App. 63).

(e) The fabric does not trail around member 55. It trails over the edge of member 26. In Fig. 9, the fabric is shown as between arms 54. If that is true, then the gripping members 47, even if they extended that far, could never grip fabric on cam 36 (Appellants' App. 63).

(f) Rods 28 are shown centrally disposed in member 26 or 27 (Fig. 9). The front edge of member 39 must be able to push the fabric to such a position that finger 55 will pass beyond the end of cam 36. The front edge of member 39 will be stopped against these rods 28 long before finger 55 could advance beyond the end edge of cam 36 (see Fig. 9). Gripping member 39 could never advance sufficiently in order that fingers 55 be in a position to fall over the ends of cam 36 (Appellants' App. 54-55). How, then, could the end stop mechanism ever operate? Or the elevating means?

(g) In Fig. 6, cam 36 is shown to be inclined upwardly from the front edge of the top face of member 26 to the position where pin 55 is supposed to fall over the edge of member 36. Pin 55 (Fig. 9) extends outwardly toward the edges of the catcher (Fig. 9). If member 55 could fall over the edge of member 36, it still would have to pass under cam 36 as the carriage returned toward the other end of the table. But pin 55 on the catcher would move into the closed angle between member 36 and blade 26, and could not get by (see the closed angle at the left-hand end of Fig. 6). Pin 55 would engage against the underface of cam 36 and could not get out of that slot. Thereby the whole apparatus would be locked against further movement. The witness demonstrated this with a pair of paper clips (Appellants' App. 64, *et seq.*). There is no solution in the patent to make this apparatus work. So how could any part of the patent structure work, if it must necessarily become locked in this manner?

But even if the patent could work, it still has two completely separate, and independently operated members for fold forming, and gripping means 39 which never moves "into" anything. It has nothing carried by the two independent fold formers for moving the gripping means into a U-shaped member; it has no relation to a U-shaped member; the Board of Appeals admitted the structure, to state it mildly, is "radically different" (Appellants' App. 142).

Member 39 in this patent, is pivoted on a fixed pivot, as is the catcher of Sussman. Its end will move in an arcuate path, not a straight-line path. Each of members 26, 27, when the carriage reaches an end position, is moved up slightly for each movement of the carriage. The witness shows (Plaintiffs' Exhibit 4, Appellants' App. 189) that the folder, at the end position, will be a constant distance lengthwise of the table from the end stop shown at the lower right-hand corner of the exhibit. The relationship of member 47 and the fold-forming member 27, however, will be different for the different levels of member 27. Member 47 will have a different displacement lengthwise of the table, and, therefore, a different length of a layer placed on the table, for each different vertical position of the fold-forming means.

In Exhibit 4, the bottommost line, with the small circle at its end, is the position of the gripper member or catch bar when it rests directly upon the table; the next position is that which it assumes in relation to the fabric-carrying member 26 when it is slightly elevated from the table. Then various degrees of elevation are illustrated. In the bottommost position, the gripping member is at least a half block (of the cross-hatching of the paper) removed horizontally toward the end stop further than at the parallel or second position. At the three other positions, the co-operation between the members varies from a single block, to two and a half blocks, to five and a half blocks. Since each block is an eighth of an inch, the variation is between a sixteenth of an inch and five-eighths of an inch, on the scale shown. There is, therefore, a definite displacement of the position of engagement of the fabric by the gripping member at the different levels to which the apparatus would be elevated, if the apparatus could work.

If the apparatus could work according to the theory attempted to be laid down, and finger 55 could fall over the end of cam 36, it is apparent this would occur at different positions of lengthwise movement of the carriage for the different vertical elevations of the fold former 26. For instance, in the lowermost position, finger 55 would have fallen over the end edge of cam 36 long before the fabric-carrying member 36 had reached its end position. Therefore, member 47 would have to be in engagement with cam 36 (Fig. 6) for a considerable time while fabric-carrying member 26 would still be moving toward the end position (Appellants' App. 59-60). The fabric (Fig. 6) is continuously feeding in that period, and is moving down over the wedge and around its edge. If the fabric is engaged by member 47 as shown in Fig. 6, and at the same time the member is riding up on cam 36, the fabric will be moving contrary to the movement of member 47 along cam 36. In other words, tearing of the fabric necessarily must result (Appellants' App. 59, *et seq.*).

What happens when blade 26 is retracted from engagement with gripper member 47? If pin 55 could get by member 36, member 47, bearing on the goods, must slide along the face of member 36, and pull the goods down with it along the face of member 36. This means that the fabric would not have a stationary fold, but additional fabric would be pulled out of the stretched material, and would be added to the layer already laid down. Obviously, this could not be the operative purpose of such apparatus.

In the topmost position (Exhibit 4), there would not be great movement of the gripper member along cam face 36. But in this topmost position, it is obvious that member 55 could never fall over the edge of the cam because member 47 would remain on member 36 in such manner as to prevent any such movement.

It is astounding that a piece of apparatus, so fatally infected, could have gotten past the Examiner. No evidence was submitted to support the operativeness of this structure. Yet the District Court and the Patent Office sluffed that reference off easily as operative for certain of its mechanisms. Which are they? And why are they operative if the whole structure is inoperative? The witness said he had seen a machine similar to this one. That is insufficient to bring any such machine into the record, particularly where he said he had never seen the machine of this patent work (Appellants' App. 83). The differences between the machine which worked and the machine of the patent were not clarified by the examination for appellee.

The Board of Appeals (Appellants' App. 138-143) failed to give any consideration to these factors of inoperativeness, but did say that the structure of the Isaacs 819 patent was "radically different."

Aside from the inoperativeness, the Isaacs 819 patent reduces itself to the following:

1. Two distinct fold-forming members are used; one of them functions to the exclusion of the other; one must be independently moved in some manner out of the way of the one which is functioning.

2. It has no U-shaped member for forming the fold.

3. It has nothing "into which" the catcher can move; even the parts to which reference are made by the Examiner are wholly inoperative.

4. It has no pivotal guiding means in conjunction with a single member for guiding the catcher "into" the box, the single member.

5. The fabric, at the time of engagement of the catcher with the fold former, if the patent could work, would be moving oppositely to the movement of the catcher and produce tearing.

6. The grippers cannot engage fabric on blades 26 or 27.

The Isaacs 1,338 Patent.

The Isaacs 1338 patent has the carriage 9 which carries a box having blades 22, 23, similar to the Sussman patent; however, although the blades have substantially the same angular disposition as in Sussman, the fabric now moves reversely, through the wide end, not the narrow end, of the box. There is reversing means. There is means for lifting and lowering the box.

The gripping means consists of an arm 14 pivoted on a fixed pivot, as in the other references. At the end of the arm is a roller 17 from the surface of which extends brushlike tufts such as are found on nap-raising machines (page 1, lines 71, *et seq.*, of the patent). The direction of the brushlike tufts is illustrated in Fig. 3. The term, "nap-raising machine," has particular significance since these tufts actually tear fibers of fabric to raise the nap of fabric (Appellants' App. 67). The fabric is engaged by roller 17 (Figs. 3 and 4), with the tufts extending through the fabric.

A ratchet 18 together with a pawl 19 (Fig. 1) permits the roller to rotate in only one direction, the direction it would roll as the box surface strikes the roller in movement toward the catcher, but prevents reverse rotation. This roller *always* rests on the fabric; it is never lifted free of the fabric. When the box approaches the roller (Fig. 3), lower blade 22 is supposed to force itself between the layers of fabric clamped by the weight of roller 17. The tufts then must be torn free of the layers into which they have penetrated. Since the roller rolls clockwise in Fig. 4, the tufts, as they come out of the fabric on the left-hand side, will tear up through the fibers of the fabric. As the box continues to move, pushing blade 22 further between the layers of fabric and, of course, lifting roller 17, this rending of the fibers continues.

If the roller happens to be below the box, there is nothing to lift the roller to the box, there is nothing to guide it into the box. If the roller is directly in line with the blade, there would be a sharp collision as the blade of the box struck the roller squarely. There never is anything to guide the roller into the box; there is nothing carried by the box to perform this function.

As the roller is withdrawn from the box when the box moves away from the roller, the roller is locked by the ratchet to stop its rotation in the reverse direction. The roller, therefore, drags along the surface of the box until it falls down upon the other stacked layers. The result again is dragging of the fabric out of the fold already formed, thus adding length to the layer, resulting in varying differences in the lengths of the successive layers at the various steps.

E. The Claims.

The question here is not whether appellants made an invention, but whether appellants have not improperly been refused claims of sufficient scope to protect their invention. Appellants contend that the Patent Office has unduly restricted them in the range of equivalents to which they are entitled by refusing the claims presented in this suit. That, after all, is the purpose of drawing broad claims: to define the scope of those equivalents which are capable of producing the same result and which appropriate the principle of invention brought into being by appellants.

Appellants contend that the invention, as defined in the allowed claims, is not the entire bounds of the invention, and that the prior art shows clearly that they are entitled to claims at least as broad as those presented here on appeal. Since appellants clearly have solved problems which the prior patented apparatus completely failed to solve, appellants deserve to be looked upon with favor.

Indeed, the prior art patents relied upon by appellee are, as has been shown, inoperative to produce results which they set forth to accomplish. Though the witness frankly said (Appellants' App. 83, *et seq.*) that he had seen, on the market, machines which worked, yet those were not the machines of the patents relied upon (Appellants' App. 83). What was the construction of the machines which the witness saw, what mechanism they used, to solve the problems which the patents did not, what were their dates, was not asked of him by the Commissioner's Solicitor. Those machines are not before the Court, and can be of no moment here. The appellee relies, and must be restricted in his reliance, upon the exact disclosure of the patents set up in his answer. That some other undescribed machines will work does not mean that apparatus the same as these cited patents will work. It is possible that apparatus which works has been designed. What principles were utilized in those machines, or when they were devised, were not disclosed by the examination. The only solution before the Court is that made by appellants. No other evidence was presented aside from the specific references. The examination by appellee clearly was not directed to elicit from the witness any evidence as to how these other machines in the industry were built to make them work. It might even have been a variance from the answer if appellee's solicitor had pointed his examination in any such direction. He did not. The reference patents relied upon in the answer are the entire defense.

The Board of Appeals gave no specific consideration to the structures defined in the claims, but merely said (Appellants' App. 142):

> "There is therefore a distinct difference between appellants' structure set forth in this group of claims and the structure shown in the references, but this difference is not deemed to be of patentable moment."

In claim 49 (Appellants' App. 8) are the following elements:

1. A carriage which moves relatively to a surface.

2. Means, supported on the carriage, which guide the fabric into position upon the surface and form the end folds for the layers.

3. Means which limit movement of the carriage relative to the surface.

4. Means which grip the fold distended by the end-fold forming means and retain the fold in distended form.

5. Separate means, carried with this end-fold forming means, which guide the gripping means *into* the end-fold forming means at the carriage movement limit and maintain the gripping means out of engagement with the end fold on the forming means *until* the carriage reaches the limit of its movement.

The Sussman patent has no such combination; it does not have means *carried with* the end-fold forming means for *guiding* the gripping means *into* the end-fold forming means. Whatever guiding means Sussman may have is carried *on the carriage* separate from, *not with,* the end-fold forming means. Certainly Sussman has no means, *carried with the box,* to guide the gripping means *into* the box itself at the carriage movement limit, and while so guided *into* the end-fold forming means, maintaining the gripping means out of engagement with the end fold *until* the end position is reached. In Sussman, if anything, until the end position is reached, the gripper bar is far, far removed from any position in the box. If, as the Examiner has, at times, inferred, the arms 46, 47, in Sussman, are the guiding means, then do these arms at any time function as means to maintain the gripping means out of engagement with the end fold *until* the end position is reached? Obviously, arms 46, 47 have nothing to do with any such function, and, therefore, are not means for any such result.

Yet, in appellants' structure, fingers 244 and lug 258 (Fig. 3) clearly are the means defined, for which the Sussman patent has no equivalent structure.

The Isaacs 819 patent does not have any means carried with the fold-forming means which guides the gripping means "into" anything. This language has absolutely no significance in relation to the Isaacs 819 patent. The word, "into," which clearly defines structure in appellants' case, does not make sense in the Isaacs 819 patent, even if it were operative. And this feature, of moving into the box, but being kept out of contact with the fabric until the very end of movement, is the critical essence of this part of appellants' invention.

As for the Isaacs 1,338 patent, the claim requires "means *carried with* the end-fold forming means for guiding the gripping means *into* the end-fold forming means at the carriage movement limit and for maintaining the gripping means out of engagement with the end-fold forming means until the limit of movement is reached." That is the conjunction of roller 254 and lug 258 as the roller finally falls over the end of the lug, while *within the box.* Means, separate and distinct from the end-fold forming means, guide the gripping means into the end-fold forming means, and hold it up in the air, out of contact with the fabric until the critical moment. Since, if the roller and the box were at different levels, the roller would not be guided into the box, and since in appellants' case, the difference in levels makes no difference, the claim clearly defines the invention for which the patent has no anticipatory structure. The Isaacs 1,338 patent has no separate and distinct means to guide the gripping means into the box at the carriage movement limit; it cannot keep the gripping means out of contact with the fabric at any time. Its gripping means is always rolling on the fabric, tearing at the fabric, rolling it up and down hill, pulling it along. Is this anticipation for appellants' admittedly wholly novel concept?

Claim 50 (Appellants' App. 9) in addition to these features of claim 49, defines the guiding and forming means as a U-shaped member, and relates the positions of the guiding means, which is carried with that member specifically, to the position between the arms of the U at the carriage movement limit. It furthermore requires the gripping means to be maintained out of contact with the arms of the U, between which it is positioned, until the end position is reached.

Thus, even more specifically than claim 49, this claim shows that no one of the references has appellants' basic concept. Sussman never guides anything between the arms of a U and keeps that something suspended with relation to the arms of the U; the Isaacs 819 patent has no U-shaped member, and no arms between which to position anything; and the Isaacs 1,338 patent never lifts the fabric gripping means free of the fabric.

Just how the references have anything to do with claim 51 (Appellants' App. 9) cannot be comprehended. This claim defines the guiding means pivotally mounted substantially medially of the extent of the arms of the U, that is, the structure (Figs. 10 and 11, Appellants' App. 100) where fingers 244 are pivotally mounted immediately at the position of lug 258 which is positioned medially between blades 70 of the box.

Sussman may have fingers, but they have no relation to this position *between* the arms of the U. Sussman cannot get the result this structure makes possible. The Isaacs 819 patent has nothing whatsoever to do with "means *pivotally mounted* substantially *medially* of the extent of the *arms* of the member for guiding the gripping means *between the arms of the U* at the carriage movement limit." This patent structure, even if operative, is admittedly "radically different" from appellants'. The Isaacs 1,338 patent does not have the specific structure, and has no source from which any such structure can be suggested, as just pointed out. Claim 52 (Appellants' App. 9) can be considered as a specimen of the group including claims 53, 54 and 55 (Appellants' App. 10-11). Claim 52 states the co-operation between the means which guide the gripping means *into* the end-fold forming means at the carriage movement limit and means which elevate the end-fold forming means, the box, as the finished layers of material pile up, and simultaneously maintains the guiding means for the gripping means in operative relation to that box.

In other words, this claim, after defining that the guiding means must guide the gripping means *into* the end-fold forming means, also requires that means simultaneously elevate the box as the layers increase but also maintain the guiding means in operative relation to the end-fold forming means, that is, to guide the gripping means *into* the end-fold forming means at the carriage movement limit. As the box is elevated by the elevating means, fingers 244 and lug 258 also are elevated. The single elevating means performs the multiple function of lifting the box and of lifting the guiding means the same degree at the same time.

The Sussman patent, of course, never changes the position of the guiding means, fingers 53. His is a fixed relationship to the carriage and a *constantly varying* relationship between fingers 53 and the box; appellants' have a fixed relation between the fingers and the box, and both move together with relation to the carriage. The Isaacs 819 patent, as already pointed out, has no application to this claim; it is "radically different." The Isaacs 1,338 patent makes no sense in relation to this claim; it has no guiding means which are maintained by any elevating means in a fixed relationship to the box as the box is elevated.

Claim 53 differs from claim 52 in requiring that the "means for elevating the end-fold forming means while the means for guiding the gripping means remains constantly in operative relation to the end-fold forming means." This means merely that the guiding means remains constantly in operative relation to the box while the box is being elevated by the elevating means.

Claim 54 has to do with the reversing of the box to point it in its two distinct directions of movement; yet the means for guiding the gripping means into the fabric-guiding means must remain effective for each of these positions of the fabric-guiding means.

Claim 55 incorporates the requirements of claims 52, 53 and 54.

Of the group of claims 58 to 63 (Appellants' App. 11-14), claim 58 specifically requires: (1) a carriage; (2) a *single* member on the carriage for guiding the fabric into position upon the surface to form folds in *either* direction of movement of the carriage; (3) limits for the carriage movement in both directions; (4) means to grip the distended folds; (5) means to lift the gripping means *free of the surface and the superimposed layers already formed as the carriage approaches either of its limits of movement;* (6) the lifting means comprising means to guide the gripping means *into* the *single* member as that single member approaches either of the limits.

The Sussman patent fails to measure up to the means which lift the gripping means free of the surface and the superimposed folded layers and which also guides the gripping means into the single member *as the member approaches either of the carriage movement limits.* The fingers in Sussman do not guide the gripping means into anything. They guide the gripping means away from the box. That the pins in Sussman finally may extend *across* the opening between the blades fails to prove that, *as* the box *approaches* the limit of movement, the lifting means keeps the gripping means free of the layers while it guides the gripping means within the box. In Sussman, fingers 53 are guiding the gripping means *completely away from* the box *as the box approaches the limit;* it is not until the box reaches the limit that the bar falls down *on top of the box,* not into it (Appellants' App. 46-48). When the bar falls, *the box has already reached the limit;* the fingers 52, 53 never guide the bar *into* the box.

The Isaacs 819 patent, aside from its great many defects, does not have a *single* member which guides fabric into position upon the surface in *either* direction, nor can it have lifting means which guides the gripping means *into that single member* as that member approaches *either* of the limits. The Isaacs 819 patent has *two* members; one is to function at one limit; the other member, at the other limit. The patent discloses no "means for guiding the gripping means *into*" any member, or any plurality of members.

The Isaacs 1,338 patent fails completely to lift the gripping means *free of the surface* and the superimposed layers at any time. The gripping means is always in engagement with the fabric. And there are no *means for lifting* the gripping means free of the surface as the carriage approaches either of the limits; there are no guiding means.

And there is nothing here to suggest a method by which anything from one of the references can be used to modify the other reference, since they all lack the essence of appellants' invention as defined in the claim.

Claim 59 additionally requires that the lifting means at all times have a fixed relation to the box, and that the lifting means *maintain the gripping means out of engagement with the end-fold* carried by the box *until the carriage reaches a limit of movement.*

The lifting means in the Sussman patent has no fixed relation to the box. The Isaacs 819 patent is "radically different," as above pointed out. In the Isaacs 1,338 patent, the gripping means is never free of the fabric.

Claim 60 becomes specific to a single U-shaped member, with lifting means guiding the gripping means between the arms of the U and retaining the gripping means out of contact with the arms of the U until the carriage reaches the limit of its movement.

That the references fail completely as to such specific structure has already been stated.

In claim 61, the single U-shaped member has means, pivotally mounted substantially medially of the extent of the arms of the U and movable at all times with the member to engage the gripping means, serving as lifting means which guide the gripping means between and free of the arms of the U at the carriage movement limit and retain the gripping means free of the arms of the U until the carriage reaches the limit of movement. Thus, even more specifically is defined the apparatus which produces the results not effected by the references, where the Board of Appeals admitted the structure was different.

Claim 62 defines means, reversible, to form folds in either direction, with a pair of arms pivotally mounted upon and retained to extend from the reversible means in either direction of movement of the carriage, where the arms, which lift the gripping means free of the surface and superimposed layers, guide the gripping means *into* the end-fold forming means at that limit, and those arms retain a fixed relation to the reversible means for every position of the reversible means.

The Sussman patent has no such pivotally mounted arms which retain a fixed relation to the box or fabric-guiding means for every position of the box; the Isaacs patents do not have arms or suggestions of where to pivotally mount anything, much less to guide the gripping means "into" the box at the carriage movement limit.

Claim 63 additionally requires elevating means, and that the arms retain their fixed relation to the box, no matter what the reversed positions of the box may be, and no matter to what position the box may be elevated. Claim 62 is not anticipated by these references; therefore, claim 63 is patentable thereover.

F. The Box Elevating Means.

The other group of claims, 74, 76, 77, 78 and 79 (Appellants' App. 15-18), are concerned with mechanism for automatically lifting the box as the layers pile up. In appellants' structure (Appellants' App. 85-101) the box, pivotally mounted on bearings (Fig. 9) in a block 66 by means of a pin or stub shaft 62, is lifted when block 66 is lifted by suitable means. Pin 62 is secured to end members 60 upon which the blades of the box are carried. When shaft 62 is rotated, the whole box is rotated. A chain 76, locked in a slot in member 66, is trained over sprockets 80 and 82 at the top and bottom, respectively, of the carriage. As the chain moves over these sprockets, the box is lifted.

To lift the box in graduated steps automatically as the carriage moves back and forth, sprocket 82 (Figs. 4 and 5) is rotated by means of a gear 104 carried on a shaft 96 which extends through a bearing in the frame. Gear 104 in turn is rotated by gear 106 which is secured to rotate with a ratchet 110. Ratchet 110 is actuated by a pawl 102 carried by an arm 120 pivoted upon pin 108 which provides the bearing for ratchet 110. A spring 116 returns arm 120 to an end position. Arm 120 carries a roller 126 which is positioned (Fig. 1) to engage with a stop 128 as the carriage moves in the proper direction. On such movement of arm 120, pawl 122 engages ratchet 110 and rotates gear 104 to rotate sprocket 82 for effecting the proper spacing of layers.

In order to vary the stroke of pawl 122, a disk 130 is carried pivotally upon pin 108. By adjusting the position of a plate 130, the end position to which pawl 122 will move is limited. Thus the throw of pawl 122 may be adjusted, and thereby the degree of lifting of the box will be adjusted.

It is important to note that gears 104 and 106, ratchet 110, and all of the operating parts, including plate 130, pawl 122, bar 120, and roller 126, are within a very narrow compass, that they are vertically disposed, and move in planes parallel to sprockets 80 and 82. This, as the witness pointed out (Appellants' App. 71) is important since these machines are set up to operate on tables with very narrow aisles between them. Obviously, there is always danger that the workmen will be injured by projections from these machines into these aisles as these workmen walk through, superintending the operation of the machines.

G. The References.

The Schneider Patent.

The patent to Schneider, 2,203,970 (Appellants' App. 184), illustrates a spreading machine with fold formers and gripping means which need not be considered here. Its fold formers 29 (Fig. 1) are pivotally mounted on a block 28 which is engaged by a chain 36 which passes around sprockets 32 and 35. The apparatus, however, is not automatic. The position of the fold formers must be adjusted manually by a hand wheel 40; a pawl 42 and ratchet 41 hold the hand wheel and the box in an adjusted position.

The Cutter Patent.

Since the Schneider patent fails to show any means for lifting the apparatus automatically as the fabric piles up, appellee turns to the patent to Cutter, 1,866,088 (Appellants' App. 184), for such means. The Cutter patent, pregnant with defects which make it inoperative, shows a carriage movable along a table to present fold formers 24 and 25 (Figs 4, 5 and 6) with relation to gripping means 41. In Fig 1, the position of the fold formers is indicated by screw 27 which serves to lift the fold formers with relation to the gripping means. That screw is threaded through body 23 (Fig. 6) which carries the fold formers. This screw is turned by means of a gear 34 which engages a rack 33 which is engaged, at the end of the motion of the carriage, by a stop 38. Thus the screw is rotated and the block fed upwardly at each end motion of the carriage.

The Cutter patent is inoperative. It was obvious from the testimony of the witness (Appellants' App. 72-73) that this patent would not work. The fold retaining member 9 at the left-hand end of Fig. 1 is of a height such that carriage 11 could not pass by it, since it is obvious that the columns 39 extend above the bottommost portion of the fabric on that carriage. In Fig. 2, carriage 11 is shown as extending up along the inside of the wheels 13. The member 41 which serves to grip the fabric in place is shown inside of the wheel. Therefore, the frame 11 could not get by the member 41 at the level of the fabric on the table.

But it is not necessary to rely on the fact that the structure is completely inoperative. The Cutter patent does not disclose how the apparatus of Schneider could be made to work with step-by-step operation. The rack and the gear, in Cutter, are disposed in one plane, the ratchet 34 and the pawl 35, to produce step-by-step motion, in another, while the screw extends upwardly above and *perpendicularly* to the planes of both. All of these parts, except the screw, are horizontally disposed; the screw is at right angles to all of the other parts.

If appellees' contention is correct, he has devised means, taking the *horizontally* disposed gear, rack, pawl and ratchet which drive the *vertically* arranged screw 27 of Cutter, to operate the *vertically* disposed sprocket and chain of the Schneider patent.

The witness says that this cannot be done (Appellants' App. 74), except by appropriating the entire mechanism of Cutter and discarding the chain and sprocket of Schneider. The witness was asked whether a mechanic could make this structure, if someone with the witness's own skill could make this structure. It is respectfully submitted that this question merely asks one of the applicants here whether he, the inventor, made the invention of the application. Is this the type of retrospective consideration the appellee desires to use to overcome applicants, that their own genius should be a reference against them?

Nothing was brought out to show how the horizontally disposed members of Cutter, which necessarily would have to extend into the aisle to a greater degree than the planar members of Schneider, are to be reconstructed, except by following appellants' teachings. Retrospective reconstruction has been frowned upon consistently.

The Patent Office itself has looked with askance upon similar adventures into the imagination, where the accomplishment of the applicant is the light that guides the Examiner in his imaginative creations. *Ex parte Snyder,* 78 U. S. P. Q. 297. There the Examiner, as here, had argued

> "that the differences in structure are mere mechanical expedients and do not warrant patent protection."

The Board said:

> "* * * We believe it improper to build up out of piecemeal parts of the prior art, an invented device, when the problem of appellant and his solution of the problem is known beforehand."

Retrospective combination of references was condemned, where the suggestion for the combination comes from the applicant's case. *Ex parte Gary,* 76 U. S. P. Q. 224; *ex parte Seeley,* 72 U. S. P. Q. 39, 40; *ex parte Myerson,* 72 U. S. P. Q. 49; *ex parte Stacy,* 69 U. S. P. Q. 264, 265. There must be a suggestion in the reference that a change such as sought for by the Examiner should be made. *Ex parte Vang,* 72 U. S. P. Q. 185, 188. Where complete reorganization of the reference is necessary, and none of the references suggests such reorganization, there is invention. *Ex parte Herro and Smart,* 71 U. S. P. Q. 170.

It is all well and good retrospectively to say that the construction the appellants made could have been made by any mechanic. The answer is, of course, that nowhere in the art has appellee shown the combination for producing this result. Appellee did not show how this change could be made. It relied upon the fact that Appellants had made that change. To say that the *horizontally* disposed members of Cutter can be used to accomplish the result which was attained by appellants with their *vertically* disposed members is to deny the result sought by appellants. There is no illustration anywhere, not only how to do it, nor that it should be done. There should be a direction not only that the change should be made, but of how it should be done. *Ex parte Gee,* 261 O. G. 800; 1919 C. D. 49; *ex parte Rockwell,* 73 U. S. P. Q. 88, 92. And how would appellee do it, unless he followed the directions in appellants' disclosure?

H. The Claims.

The claims involved in this part of the case are claims 74, 76, 77, 78 and 79 (Appellants' App. 15-18). In order to present the issue more sharply, appellants have, on this appeal, withdrawn claims 36, 38, 40 and 42 which were urged before the District Court.

Claim 74 defines means for guiding sheet material to the position where the layers are to be formed, and means for spreading the material and for forming end folds therein, in conjunction with (1) means for lifting and lowering the spreading and end-fold forming means; (2) the lifting and lowering means including the band anchored to the spreading and end-fold forming means; (3) rotatable members spaced apart and located substantially in a plane substantially parallel to the direction of movement of the spreading and end-fold forming means; (4) the band passing around those members; and (5) means imparting rotation to one of the members and movable in a plane substantially parallel to the plane of the members themselves to impart step-by-step motion to that member.

This definition of parallelism between the plane of the actual lifting means, the sprockets and the chain, and the plane of the rotation-imparting means, shows wherein the references fail. In Cutter, there is no such parallelism. The rack, the ratchet, the gear, are all at right angles, not parallel to, the screw. This parallel condition makes it possible to locate the actuating mechanism close to the carriage, and thereby to increase the amount of available space in the aisle. This is not true in the Cutter patent, where the diameters of the gear and the ratchet and the thickness of the rack increase the narrowness of the aisle. Obviously no combination of Schneider and Cutter can produce a result such as defined by these claims where the rotation-imparting means are movable in a plane substantially parallel to the plane in which the sprocket and band themselves move. The witness says you would have to discard the chain to use the apparatus of Cutter (Appellants' App. 74).

Claim 76 requires means actuated when the spreading and end-fold forming means reaches a limit of its movement, and actuated by the movement limiting means, to energize the rotation-imparting means to impart step-by-step motion to the member, that is, the box. This actuating means is required to be movable in a plane substantially parallel to the plane of the members which are the sprockets. This is another manner of defining the invention set forth in claim 74 which, as stated before, is not anticipated by the Cutter and Schneider patents.

Claim 77 is broader than claim 76; it omits the specific description of the motion as step-by-step.

Claim 78 defines the step-by-step imparting means broadly as actuated when the spreading and end-fold forming means is limited in its movement by the movement limiting means, requiring that such means be movable in a plane substantially parallel to the plane of the rotable members. This again is another manner of defining broadly the invention involved in applicants' case as distinguished from the two reference patents, that is, the location of the actuating means in a plane substantially parallel to the plane of the sprocket.

Claim 79 goes further and requires adjusting means for adjusting the extent of each step-by-step movement. There is nothing in either one of the patents to illustrate any adjustment, where the parts are arranged to move in parallel planes. The limit pin 38′ in the Cutter patent cannot be understood to have anything to do with this invention. Since the basic combination of the claim is not met by the references, such adjustment in appellants' case necessarily adds on a further feature to distinguish the claim from the references.

I. Conclusion.

Appellants believe they are entitled to the claims here urged, for proper protection of the substantial advance they have made over the art. Appellants respectfully pray that they may have a decree that claims 49 to 55, and 58 to 63, as here presented, both inclusive, 74, 76, 77, 78 and 79, may be granted.

Very respectfully submitted,

ROBERT I. DENNISON,
Solicitor for Appellants.

HENRY L. BURKITT,
Of Counsel for Appellants.

APPENDIX FOR APPELLANTS.

United States Court of Appeals

For the District of Columbia.

Appeal No. 10,208.

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER, *et al.*,
Plaintiffs-Appellants,

v.

John A. Marzall
~~LAWRENCE C. KINGSLAND~~, Commissioner of Patents,
Defendant-Appellee.

Appeal From Judgment of United States District Court for the District of Columbia.

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United States Court of Appeals
For the
District of Columbia Circuit
FILED JUL 15 1949
Joseph W. Stewart
CLERK

THE REPORTER COMPANY, INC., New York City—1949

APPENDIX FOR APPELLANTS.

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For the District of Columbia.

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HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER, *et al.*,
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LAWRENCE C. KINGSLAND, Commissioner of Patents,
Defendant-Appellee.

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United States District Court 1

DISTRICT OF COLUMBIA.

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER and CUTTING ROOM APPLIANCES CORP.,
Plaintiffs,
vs.
LAWRENCE C. KINGSLAND, Commissioner of Patents,
Defendant. 2

Civil No. 37,369

Docket Entries.

Date		
1946		
Oct.	23	Deposit for cost by—Graves
	23	Complt. & app. Filed
	23	Summons, copy (1) & complt. issued; served 10/23/46
Dec.	18	Answer of deft. to complt; app. W. W. Cochran by deft.
	18	Calendared (n) 3
1947		
Sept.	29	Dep. of Henry L. Burkitt $50.00 for security for costs.
Oct.	1	Consent order substituting Lawrence C. Kingsland, Commissioner of Patents, as party Deft. in place of Casper W. Ooms, formerly Commissioner of Patents Laws, C. J. (N)
1948		
July	28	Appearance of Bennett H. Levenson, Munsey Bldg. Atty for pltf.

	Sept.	9	Stip. of Counsel Re: Filing of Amended Complt. Filed
		9	Amended Complt. (first, Letts, J.) Filed
		9	Summons, copies (1) & copies (1) of Amended Complt. issued served 9-13-48 (U. S. Atty. served 9-10-48, Atty. Gen'l 9-13-48)
		16	Ans. of deft. to Amended Complt. Filed
	Oct.	14	Heard in Part—respited until Oct 15th Letts, J.
		15	Hearing resumed—Case submitted—Briefs to be filed Letts, J.
5	Nov.	8	Certified record of official court reporter. Brief on behalf of plaintiffs.
		17	Reply brief for pltf filed
	Dec.	14	Brief for Deft. filed
		14	Informal memo. dismissing compt. (Findings & Judg. to be presented) Letts, J. (N)
		23	Official Transcript of Certified record of official Reporter Vol. 1 Pgs. 1-85
	1949		
	Jan.	5	Findings of Fact & Conclusions of Law Letts, J. (N)
		5	Judgment dismissing Complt. Letts, J. (N)
6	Mar.	4	Notice of Appeal—deposit by Robert Dennison (3 notices)
		4	Appearance of Robert I. Dennison
		11	Appellant's designation of record on appeal
		23	Cost bond on appeal in amt. of $250.00 with Century Indemnity Co. as surety approved & filed.
	Apr.		Appellant's supplemental designation of Record on Appeal filed.
		4	Order directing pltf.'s exhibits Nos. 1-2-3-4-5 in U. S. Dist. Court for District of Columbia be transmitted to Clerk of Court of Appeals for District of Columbia Letts, J. (N)
		4	Exhibits of Pltf. Nos. 1-2-3-4-5 filed

Notice of Appeal. 7

UNITED STATES DISTRICT COURT,

For the District of Columbia.

[Same Title.]

Notice is hereby given this 4th day of March, 1949, that Herman Walter Gilbert, Walter Deichmann, Frank H. Dexter, and Cutting Room Appliances Corp. hereby appeal to the United States Court of Appeals for the District of Columbia from the judgment of this Court 8
entered on the 5th day of January, 1949 in favor of Defendant against said Plaintiffs

ROBERT I. DENNISON
Attorney for Plaintiffs
Henry L. Burkitt
Of Counsel for Plaintiffs

To:

W. W. Cochran, Esq.
Solicitor for Commissioner of Patents

To:

United States Attorney, 9
Washington, D. C.

To:

Attorney General of the United States,
Washington, D. C.

To:

Clerk, United States District Court
for the District of Columbia

10 **Amended Complaint for Issuance of Patent.**

UNITED STATES DISTRICT COURT,

District of Columbia.

[Same Title.]

Herman Walter Gilbert, Walter Deichmann, Frank H. Dexter, and Cutting Room Appliances Corp. bring this Complaint against Casper W. Ooms, Commissioner of Patents, and/or his successors in Office, said Commissioner of Patents being, as such, an inhabitant of the 11 District of Columbia, jurisdiction depending upon a right to relief by suit in equity under Section 4915 of the Revised Statutes (Sec. 63 of Title 35 of the Code of Laws of the United States of America), as amended, and avers:

I. That Herman Walter Gilbert is a citizen of the United States, residing presently at 113-14 72nd Road, Forest Hills, County of Queens, in the City and State of New York; that Walter Deichmann is a citizen of the United States, residing presently at 90 Locustwood Boulevard, Elmont, L. I., in the County of Nassau and State of New York; that Frank H. Dexter is a citizen of the United States, residing presently at 124 Lewis Street, 12 Valley Stream, in said County of Nassau; Cutting Room Appliance Corp. is a corporation, organized under the laws of the State of New York, and having an office and place of business at 45 West 25th Street, Borough of Manhattan, County, City and State of New York; and that the said Commissioner of Patents is, as such, an inhabitant of the District of Columbia.

II. That Herman Walter Gilbert, then a resident of Kew Gardens, in the City of New York, in the County of Queens, and State of New York, Walter Deichmann, then a resident of Elmont, in the County of Nassau, and State of New York, and Frank H. Dexter, then a resident of

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Allwood, Clifton, in the County of Passaic, and State of New Jersey, before the 19th day of December, 1940, were the first, joint and original inventors of an improvement in Sheet Material Spreading Machines, and, on the 19th day of December, 1940, they did make application to the Commissioner of Patents, in due form of law, for Letters Patent of the United States thereon. The invention of said Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter was new, useful, not known or used by others in this country before their invention thereof, not patented or described in any printed publication any- 14 where before their invention, or more than one year before their application aforesaid, not in public use or on sale in this country for more than one year before their application, not patented in any foreign country by them or their legal representatives or assigns on an application filed more than one year before their application in this country, and not abandoned.

III. That, on the 19th day of December, 1940, said Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter, being the inventors as aforesaid, made application to the Commissioner of Patents for Letters Patent of the United States for their said invention, in due form of 15 law, and therein did particularly point out and distinctly claim the articles of manufacture, art, method, process and apparatus constituting their invention or discovery, and that said application was given Serial No. 370,784 by the Commissioner of Patents.

IV. That said Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter duly prosecuted their aforesaid application and claims before the said Commissioner of Patents, and, in the course of such prosecution, clearly defined, delimited and pointed out in the claims thereof their invention aforesaid, as will more fully appear by a duly certified copy of said application and the proceedings thereon, ready in Court to be produced, and profert whereof is hereby made.

V. That certain of the claims of said application, and each of them, were repeatedly and erroneously rejected upon the proceedings thereon in the Patent Office and before the Examiner; that thereupon appeal was taken by said Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter to the Board of Appeals; and the said Board, having considered the same on or about the 25th day of April, 1946, did erroneously affirm the decision of **17** the Examiner, rejecting certain of said claims; that thereafter the Examiner did repeatedly and erroneously reject and refuse to allow certain of the claims of said application which were presented for his consideration in view of the decision of the Board of Appeals; that thereupon a further appeal was taken to said Board of Appeals; and the said Board, having considered the same on or about the 28th day of July, 1948, did affirm the decision of the Examiner, rejecting certain of said claims; and that no appeal from said decision has been taken to the Court of Customs and Patent Appeals, all of which will more fully appear by a duly certified copy of said application and of the proceedings thereon in the Patent Office **18** of the United States, ready here in Court to be produced, and profert whereof is hereby made.

VI. That the rejected claims aforesaid read as follows:

"36. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for imparting step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

"38. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end- 20
fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for imparting step-by-step rotation to one of the sprockets to move the end-fold forming means vertically.

"40. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means 21
for the guiding means, and means for co-operation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

"42. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for co-operation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and 23 lowering the end-fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the sprockets to move the end-fold forming means vertically.

"48. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming 24 the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming member to retain it in distended form, and means for guiding the gripping means into the end-fold forming means at the carriage movement limit.

"49. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, 25 means for gripping a fold distended by the end-fold forming means to retain it in distended form, and means carried with the end-fold forming means for guiding the gripping means into the end-fold forming means at the carriage movement limit.

"50. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, the guiding and forming means including a U-shaped member, 26 means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means carried with the member for guiding the gripping means between the arms of the U at the carriage movement limit.

"51. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, the guiding and forming means including a U-shaped member, means for limiting movement of the carriage relative to the sur- 27 face, means for gripping a fold distended by the member to retain it in distended form, and means pivotally mounted substantially medially of the extent of the arms of the member for guiding the gripping means between the arms of the U at the carriage movement limit.

"52. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for elevating the end-fold forming means in accordance with increase of finished layers of material and maintaining the means for guiding the gripping means in operative relation to the end-fold forming means.

"53. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage 29 having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for elevating the end-fold forming means while the means for guiding the gripping means remains constantly in operative relation to the end-fold forming means.

"54. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage 30 for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for reversing the direction of the fabric guiding means when the carriage reaches the carriage movement limit while the guiding means for the gripping means remains effective for each position of the fabric guiding means.

"55. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, means for elevating the end-fold forming means while the means 32 for guiding the gripping means remains constantly in operative relation to the end-fold forming means, and means for reversing the direction of the fabric guiding means when the carriage reaches the carriage movement limit while the guiding means for the gripping means remains effective for each position of the fabric guiding means.

"58. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement back and forth relative to the surface, the carriage having a single member for guiding fabric into position upon the surface 33 and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means for lifting the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, said lifting means comprising means for guiding the gripping means into the member as the member approaches either of the carriage movement limits.

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"59. In a machine for laying down upon a surface
successive superimposed layers of sheet material, a car-
riage for movement back and forth relative to the surface,
the carriage having means for guiding fabric into position
upon the surface and for forming the end folds of the
layers during such movement of the carriage both back
and forth over the surface, means for limiting movement
of the carriage in both directions relative to the surface,
means for gripping a fold distended by the end-fold
forming means to retain it in distended form, and means
for lifting the gripping means free of the surface and
35 superimposed folded layers already formed and disposed
on the surface as the carriage approaches either of the
movement limits, said lifting means having a fixed relation
at all times to the end-fold forming means and compris-
ing means for guiding the gripping means into the end-
fold forming means at either of the carriage movement
limits and for maintaining the gripping means out of
engagement with the end fold carried by the forming
means until the carriage reaches a limit of the movement.

"60. In a machine for laying down upon a surface
successive superimposed layers of sheet material, a car-
riage for movement back and forth relative to the surface,
36 the carriage having means for guiding fabric into position
upon the surface and for forming the end folds of the
layers during such movement of the carriage both back
and forth over the surface, the guiding and forming means
comprising a single U-shaped member, means for limiting
movement of the carriage in both directions relative to
the surface, means for gripping a fold distended by the
member to retain it in distended form, and means carried
with and having a fixed relation at all times to the mem-
ber for lifting the gripping means free of the surface
and superimposed folded layers already formed and dis-
posed on the surface as the carriage approaches either of
the movement limits, said lifting means comprising means

for guiding the gripping means between the arms of the U at the carriage movement limit and for retaining the gripping means out of contact with the arms of the U until the carriage reaches a limit of its movement.

"61. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, the guiding and forming 38 means comprising a single U-shaped member, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means pivotally mounted substantially medially of the extent of the arms of the member, and movable at all times with the member, for engaging the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said engaging and lifting means comprising means for guiding the gripping means between and free of the arms of the U at the 39 carriage movement limit and for retaining the gripping means free of the arms of the U until the carriage reaches that limit of its movement.

"62. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface,

40 means for gripping a fold distended by the end-fold forming
means to retain it in distended form, and a pair of
arms pivotally mounted upon and retained to extend
from the fabric guiding means in the directions of movement
of the carriage, the arms forming means for engaging
the gripping means at a limit of movement of the
carriage as the carriage approaches that limit of movement
and for lifting that gripping means free of the surface
and superimposed layers already formed and disposed
on the surface, said arms comprising means for
41 guiding the gripping means into the end-fold forming
means at the carriage movement limit, the fabric guiding
means being reversible to form folds in either direction
of carriage movement, the arms retaining a fixed relation
to the fabric guiding means for each position of the fabric
guiding means.

"63. In a machine for laying down upon a surface successive
superimposed layers of sheet material, a carriage
for movement back and forth relative to the surface, the
carriage having means for guiding fabric into position
upon the surface and for forming the end folds of the
layers during such movement of the carriage both back
and forth over the surface, means for limiting movement
42 of the carriage in both directions relative to the surface,
means for gripping a fold distended by the end-fold forming
means to retain it in distended form, and a pair of
arms pivotally mounted upon and retained to extend
from the fabric guiding means in the directions of movement
of the carriage, the arms forming means for engaging
the gripping means at a limit of movement of the
carriage as the carriage approaches that limit of movement
and for lifting that gripping means free of the surface
and superimposed layers already formed and disposed
on the surface, said arms comprising means for
guiding the gripping means into the end-fold forming
means at the carriage movement limit, the fabric guiding

means being reversible to form folds in either direction of carriage movement, and means for elevating the end-fold forming means, the arms being assembled with the end-fold forming means to remain in a constant operative relation to the fabric guiding means for every position of the fabric guiding means.

"71. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material 44
and for forming end-folds therein, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, the rotation-imparting means being disposed substantially in the same plane as the member, and means movable in a plane substantially parallel to said plane of said member for energizing the rotation-imparting means to impart step-by-step motion to said member.

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"74. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material and for forming end-folds therein, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in a plane substantially parallel to the direction of movement of the spreading-and-end-fold-forming means, the band being trained around the members, and means for imparting rotation to one of the members, the rotation-imparting means being movable in a plane substantially parallel to said plane of said members for imparting step-by-step motion to said member.

"75. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-
47 and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, the rotation-imparting means being disposed substantially in the same plane as the member, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane of said members for
48 energizing the rotation-imparting means to impart step-by-step motion to said member.

"76. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane of said members for energizing the rotation-imparting means to impart step-by-step motion to said member.

"77. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds 50 therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for 51 energizing the rotation-imparting means.

"78. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for imparting step-by-step motion to said member.

"79. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, 53 means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for imparting step-by-step motion to said member, and means for adjusting the extent of each step-by-step movement."

VII. That the Commissioner of Patents has refused 54 and still refuses to grant Letters Patent upon the aforesaid application of Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter for the invention embraced in the rejected claims thereof; that said Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter, by an assignment in writing, duly recorded in the United States Patent Office, have assigned to the Cutting Room Appliances Corp., a corporation of the State of New York, and said Cutting Room Appliances Corp. now is the sole record owner of, all the right, title and interest in and to said invention and in and under said application and any patent to be issued thereon, and joins in this complaint as a Plaintiff.

WHEREFORE said Plaintiffs bring this Complaint under and in accordance with the provisions of the Statute in such case made and provided, and respectfully pray your Honors:

(1) To adjudge and decree that said Plaintiffs, Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter, and Cutting Room Appliances Corp. are entitled, according to law, to receive Letters Patent of the United States for their aforesaid invention, as specified and particularly pointed out and distinctly claimed in the rejected claims and in their application hereinbefore re- 56
ferred to;

(2) That the Commissioner of Patents be directed and authorized to issue such patent;

(3) For such other and further relief as equity may require and as your Honors deem proper; and

(4) That the Honorable Casper W. Ooms, Commissioner of Patents of the United States, be required to appear and answer under this Complaint and abide the further Order of this Court.

HERMAN WALTER GILBERT,
WALTER DEICHMANN, and 57
FRANK H. DEXTER and
CUTTING ROOM APPLIANCES CORP.
By HERMAN WALTER GILBERT
Their Solicitor.
James M. Graves
National Press Building,
Washington, D. C.

HENRY L. BURKITT,
Of Counsel,
900 Berkeley Building,
19 West 44th Street,
New York, N. Y.

(Verified by Herman Walter Gilbert, September 3, 1946.)

58

Answer to the Amended Complaint.

UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA.

[Same Title.]

To the Honorable the Judges of the United States District Court for the District of Columbia.

Defendant admits the allegations of the unnumbered paragraph at the beginning of the amended complaint.

I. Defendant admits the allegations of paragraph I. 59

II. He admits that on December 19, 1940, plaintiffs Herman Walter Gilbert, Walter Deichmann and Frank H. Dexter, claiming to be the first, joint and original inventors of an improvement in Sheet Material Spreading Machines, filed in the Patent Office an application for patent thereon, to which application Serial No. 370,784 was given, and in said application made averments corresponding to the allegations of paragraph II. Defendant denies, for reasons hereinafter given, that such allegations are sufficient to justify the issuance of a patent on said application containing any of claims 36, 38, 40, 42, 48 to 55, inclusive, 71 and 74 to 79, inclusive, of said application.

60 III, IV. He admits that said application was in compliance with the formal requirements of law and that in the claims thereof plaintiffs particularly pointed out and distinctly claimed the subject matter which they regard as their invention. Defendant denies that any of the claims listed in the answer to paragraph II points out any patentable invention.

V. He admits the allegations of paragraph V except the allegations that the actions of the examiner and of the Board of Appeals were erroneous. These allegations he denies.

VI. He admits that the claims set out in paragraph VI correspond to the claims bearing the same numbers which have been presented in said application.

VII. He admits the allegation of assignment to plaintiff, Cutting Room Appliances Corp. He admits that he has refused and still refuses to issue a patent to plaintiffs on said application containing any of claims 36, 38, 40, 42, 48 to 55, inclusive, 71, and 74 to 79, inclusive. He 62 states that plaintiffs are not lawfully entitled to receive a patent containing any of said claims since it is deemed that the said claims are unpatentable in view of the following prior patents and for the reasons given by the examiner in his statements dated February 10, 1945, and April 12, 1948, and in the decisions of the Board of Appeals dated April 25, 1946, and July 22, 1946, and July 28, 1948, copies of which will be furnished at the trial:

Isaacs *et al.,*	819,548,	May 1, 1906,	
Sussman *et al.,*	1,257,421,	Feb. 26, 1918,	
Isaacs,	1,338,570,	Apr. 27, 1920,	
Latham,	1,793,180,	Feb. 17, 1931,	63
Gargolinski,	1,803,180,	Apr. 28, 1931,	
Cutter,	1,866,088,	July 5, 1932,	
Schneider,	2,203,970,	June 11, 1940.	

Profert of copies of these patents is hereby made. He states that claims 58 to 63, inclusive, as set forth in paragraph VI have not been entered in said application and have not been considered by the Board of Appeals. Defendant therefore states that the Court does not have jurisdiction in an action under Section 4915 R. S. to render judgment on the merits of claims 58 to 63, inclusive.

W. W. COCHRAN
Solicitor, U. S. Patent Office,
Attorney for Defendant.

September 15, 1948.

I hereby certify that a copy of this Answer to the Amended Complaint was mailed today, September 15, 1948, to the attorney for plaintiffs, Mr. James M. Graves, National Press Building, Washington, D. C. 65

W. W. COCHRAN
Solicitor.

66

Informal Memorandum. 67

IN THE

DISTRICT COURT OF THE UNITED STATES,

FOR THE DISTRICT OF COLUMBIA.

[SAME TITLE.]

Claims 58 to 63, inclusive, have not been acted on as to their merits, by either the examiner or the board and for that reason are not now properly before the court.

68

The other claims in issue must be rejected in view of the prior art.

The solicitor for the Patent Office will submit findings of fact, conclusions of law and a judgment order dismissing the complaint.

F. DICKINSON LETTS
Judge

69

70 **Findings of Fact.**

UNITED STATES DISTRICT COURT,

For the District of Columbia.

[Same Title.]

1. This is an action under R. S. 4915 (U. S. C., title 35, sec. 63), in which the plaintiffs sought to have the Court authorize the allowance of a patent containing claims 36, 38, 40, 42, 48 to 55, inclusive, 58 to 63, inclusive, 71 and 74 to 79, inclusive, of the application of 71 Herman Walter Gilbert, Frank H. Dexter and Walter Deichmann, No. 370,784 for patent on a sheet material spreading machine.

2. At the trial, plaintiffs discontinued the action as to claim 48, and in their brief they withdrew claims 71 and 75.

3. Claims 58 to 63, inclusive, have not been entered in the application here involved, were not rejected by the primary examiner and were not considered as to their merits by the Board of Appeals.

4. The application here involved relates to an apparatus 72 for folding a long strip of sheet material into a number of sections of equal length and laying them, one upon another, on a table. The apparatus comprises a carriage which is mounted for back and forth movement on the table. The material to be folded is supported on the carriage and is guided to the desired position on the table by guiding elements mounted on the carriage. The carriage is also provided with means for folding the material as the carriage reaches each end of its movement, and the folded material is engaged and held in position by elements mounted on the table at the ends of the path of movement of the carriage. Means are provided for gradually moving the folding means upward as the height

of the pile of material on the table increases, such means comprising a chain and sprocket which are actuated by a pawl and ratchet mechanism at the ends of the movement of the carriage.

5. The patent to Cutter No. 1,866,088 shows a fabric folding device similar to that of the plaintiffs and comprising a movable carriage on which the material to be folded is supported. The carriage is provided with guiding and folding means for directing the material to the table and folding it at the ends of the carriage movement. The folding mechanism is gradually elevated by a screw 74 which is actuated by a pawl and ratchet mechanism.

6. The patent to Schneider No. 2,203,970 shows a fabric folding device of the general type shown by the Cutter patent and by the plaintiffs' application. In the Schneider patent the folding means is elevated by a chain and sprocket mechanism.

7. The patent to Sussman *et al.*, No. 1,257,421 shows a fabric folding device comprising a movable carriage on which the fabric is supported. The carriage is provided with means for folding the fabric at each end of the carriage movement and means are provided on the table for engaging and holding the folded fabric after each fold 75 is made. The folding mechanism is gradually elevated by a screw which is rotated slightly each time the carriage reaches one end of its movement.

8. The patent to Isaacs No. 1,338,570 shows a fabric folding device comprising a carriage which supports the fabric and carries means for folding the fabric at each end of the carriage movement. The folding means is gradually elevated by a hand actuated mechanism.

9. The patent to Isaacs *et al.*, No. 819,548 discloses a fabric folding means comprising a movable carriage, end

stops for limiting the movement of the carriage, a folding mechanism and means actuated when the carriage reaches the end of its movement for gradually elevating the folding mechanism.

10. Each of the patents to Sussman No. 1,257,421, Isaacs No. 1,338,570, Cutter No. 1,866,088 and Schneider No. 2,203,970 discloses a fully operative device.

11. The device disclosed by the patent to Isaacs *et al.*, No. 819,548 is operative so far as the end stop mechanism and the folding mechanism elevating means are concerned.

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12. It would not require invention, in view of the Schneider patent, to substitute a chain and sprocket mechanism for the screw means of the Cutter patent, as a means for elevating the folding mechanism.

13. Claims 36, 38, 40, 42, 74, and 76 to 79, inclusive, do not define invention over the Cutter patent in view of the Schneider patent.

14. Claims 49, 50, 51, 52, 53, 54 and 55 do not define invention over the Sussman patent.

15. Claims 49, 50 and 51 define no invention over Isaacs
78 patent No. 1,338,570 in view of Isaacs *et al.*, patent No.
819,548.

16. None of claims 36, 38, 40, 42, 49 to 55, inclusive, 74 and 76 to 79, inclusive, defines invention over the prior art.

17. Each of claims 36, 38, 40, 42, 49 to 55, inclusive, 74 and 76 to 79, inclusive, is unpatentable in view of the prior art.

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Conclusions of Law

1. Claims 58 to 63, inclusive, are not properly before the Court for consideration on their merits.

2. Plaintiffs are not entitled to a patent containing any of claims 36, 38, 40, 42, 49 to 55, inclusive, 74 and 76 to 79, inclusive.

3. The complaint should be dismissed as to all the claims involved.

F. DICKINSON LETTS 80
Judge.

January 5, 1949.

81

82 **Judgment.**

UNITED STATES DISTRICT COURT,

FOR THE DISTRICT OF COLUMBIA.

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER and CUTTING ROOM APPLIANCES CORP., Plaintiffs, v. 83 LAWRENCE C. KINGSLAND, Commissioner of Patents, Defendant.	Civil Action No. 37,369

This action came on to be heard at the last term and thereupon, upon consideration thereof, it is, this 5th day of January, 1949,

ADJUDGED that the complaint in this case be, and the same hereby is dismissed with costs against the plaintiffs.

F. DICKINSON LETTS
Judge.

84 Approved as to form:

....
Attorney for Plaintiffs.

Proceedings. 85

UNITED STATES DISTRICT COURT,

FOR THE DISTRICT OF COLUMBIA.

[SAME TITLE.]

Washington, D. C.,
Thursday, October 14, 1948.

The above-entitled matter came on for hearing before Hon. F. Dickinson Letts, District Judge, in Civil Division No. 3, at 1:30 P. M. 86

Appearances:

On behalf of the plaintiffs: Mr. Henry L. Burkitt.
On behalf of the defendant: Mr. E. L. Reynolds. [1]

The Deputy Clerk: Gilbert vs. Kingsland.

The Court: You are Mr. Graves?

Mr. Burkitt: My name is Burkitt, your Honor. I am the attorney from New York. Mr. Graves is our local solicitor.

The Court: Mr. Burkitt?

Mr. Burkitt: Burkitt. 87

The Court: Oh, yes; Mr. Henry L. Burkitt.

Mr. Burkitt: I have been a member of the Bar of this Court for quite a few years, but I am practicing in New York.

Opening Statement on Behalf of Plaintiffs.

Mr. Burkitt: I think I should open with a short statement as to the case, and I would like to hand up to your Honor a set of the drawings of our application now pending in the United States Patent Office, in which so far in the prosecution we have obtained 41 allowed claims, but we say the Patent Office has not given us the ultimate protection to which we are entitled. So we have prosecuted a pair of appeals, which came about because of an error in the prosecution in the office; but it finally arrived here on a petition or an action under the Revised Statutes, Section 4915, as your Honor probably knows, to determine whether the Commissioner of Patents should be compelled to issue the claims that he has already finally rejected and which the Board of Appeals has affirmed the Examiner upon. [3]

89 The machine is a machine today in use in the industry. One of the plaintiffs, the company, has sold, as I understand it, close to a thousand machines.

Mr. Deichmann: Sixty-five hundred.

Mr. Burkitt: Sixty-five hundred, I am told; sixty-five hundred of the machines; and that includes two types, I believe, motorized and manual operated.

Now, those machines have been shipped all over the world. We have applications pending and patents issued which are of no importance here; but the machine has great utility. That is the important thing.

The machine is not the pioneer in the industry, but it has solved problems which the old machines of the art
90 could not solve and did not solve; and the Patent Office has relied upon patents as prior art which the witness will tell your Honor he did not know of. They may have had details here and there which are known in the art, but it seems the patents themselves could well be considered to be inoperative—that is, they would not work for the purposes set forth in their own content—but, in addition to their inoperativeness, we will point out wherein these patents do not accomplish the result that our machine does.

Now, in the drawings you will notice there is a table shown, along which a carriage moves. On the carriage is deposited a bolt of cloth. The cloth has to be laid

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out on [4] this table for cutting repetitions of the same pattern. In these clothing factories they turn out hundreds of identical suits, and the cloth is laid down in successive layers, and the pattern is laid down on the top, and after that a cutting machine cuts out these hundreds of different layers. The machine, therefore, is a machine for laying down the successive layers on this long table.

That, as I say, is an old business. They have done that before. But then there comes the fact of conservation of material, exactness in the length of the layer, and the ability to lay down the layers without destroying the fibers 92 of the material at the very ends, which also is as important as the piece in the center. Those are the elements which these plaintiffs have incorporated into their machines, which the prior art patents do not.

There are two sets of claims upon which we come here. The first set has to do with what we call the box or fold former or end fold forming means.

This box is a U-shaped member carried by the carriage, and as the carriage goes along the table, the cloth is fed through the box, and it shoves the fabric along into a smooth flat plane and lays it down on the table; but then it has to automatically reverse itself.

This box which I define as a U-shaped member in 93 some of the claims has a blade, a parallel blade, that travels along [5] the table, comes to an end position, where the blade comes into association with what the industry calls the catcher, which I call in my claims gripping means.

This catcher is an assembly of pins and bars, which are lifted from folds which have already been formed. The machine has formed the folds and deposited them at the end of the table. It has to be held there when the carriage is brought back, so that the carriage won't distort this fold which has been formed; so a catcher at the end of the table has bars and pins which engage the form fold.

Now, the problem is actually catching that fold, retaining it against distortion, and retaining it so every successive fold will be of the same identical length. That we have protection for in some specific claims, and we claim that we are entitled to a broader protection, because in our case the catcher bar enters the box, and not until that box has come to an absolute halt, at the very end of its movement, which is determined by a stop, which is the same in every operation, that bar falls into place and clamps the material on the box.

95 Now, that sounds to be very simple, but the art did not do it. The art had a box and they had a clamp bar which went away up in the air and fell down on top of the box, not inside of it, and that clamp bar was carried by a pivoted arm which, we will say, could not for every position of the [6] box come into identically the same relationship to the fold which may have been formed by the box.

That, we do. That, this particular reference does not do.

There are three references upon which the Patent Office relies. One reference has two separate fold formers or plates that they use in this particular patent. One works 96 in one direction. In the other, the carriage goes in the other direction.

We have a single U-shaped member, which is in this position for one layer of the fabric and in that position for the other layer of the fabric, a single function which functions for each movement of the table.

This other patent has two distinct members, and we will show by the evidence that that particular patent cannot work. Its own showing destroys its efficacy as an operating mechanism. How in the world they ever got by, I do not know, but, on its face, the draftsman or somebody has concocted a mechanism which cannot work.

Then there is a third patent which also shows a box, but it has a roller for engaging and holding the material at the end of the table. That roller is caught on the material, and the box has to come between the material and the roller. We will show by the testimony that that roller must tear the cloth at the end of this movement and, furthermore, that the roller can never have the same position lengthwise of the [7] table for the successive layers which will be deposited upon the table.

Then there is a second set of claims. We have devised a box, as I have discussed, but that box must be elevated 98
as the layers are laid down upon the table; so we have devised a lifting mechanism which is in the form of sprocket and chain.

Sprockets and chains are very old and, in fact, one of the references describes a sprocket and chain for lifting the box to its several positions. But that reference happens to show a hand manipulated member, so the operator has to twist his hand lever, and maybe he will raise it enough and maybe he won't. But it is completely manual, there is nothing automatic, and possibly he will forget it.

So the Examiner says, "Here is another patent which shows an automatic mechanism for lifting a box." But
the automatic lifting mechanism in that particular patent 99
has nothing to do with the chain for lifting a box. It has a screw, which is ancient in the art. We will show that the two mechanisms, the screw for lifting the box and the chain, cannot be brought together so that you will get an automatic lifting mechanism from those two references.

In addition to that fact, again this particular patent, which shows the screw mechanism—on its face, I can't understand how these drawings ever get made, but they are—[8] on its face shows a mechanism which cannot go together, cannot work, and the witness will explain that particular phase.

Mr. Reynolds: May it please the Court, as Mr. Burkitt says, there have been about 40 claims already allowed, so there is no question as to whether an invention has been made or not. The question is simply the scope of the protection to which he is entitled, and we feel that the allowed claims amply cover the invention which has been made.

The references are rather close, as I think could be gathered from Mr. Burkitt's remarks. I do not think it would be helpful for me to go into the details of them now. That will probably be brought out in the testimony.

101 Generally, we think that the changes that have been made are simply mechanical expedients and obvious modifications and would be within the province of the skilled worker in the art. They are just substituting one equivalent means for another, without producing any unexpected result.

There is one group of claims, though, 58 to 63, which have not been passed on by the Board of Appeals on their merits. Those claims were presented late in the prosecution. The Examiner refused to consider them, because they were late, and the Board of Appeals did not pass on them; and, of course, under 4915, jurisdiction of this 102 Court is limited to review of decisions by the Board of Appeals, and since there has [9] been no decision by the Board on those claims, we do not think they are properly before the Court.

The Court: Do you agree to that?

Mr. Burkitt: I do not fully agree to that, because there have been some diverse attitudes taken by the courts and even by the Board of Appeals itself. There is a serious question as to whether this Court should not *de novo* hear that, because the 4915 proceeding takes the form of a *de novo* proceeding. We present witnesses to determine facts that were not even discussed in the Patent Office, possibly—in this case they happen to have been—

but we conceive a 4915 proceeding to be a *de novo* trial on the question of novelty—

The Court: *De novo* as to matters that have been passed on in the Patent Office, but not *de novo* in respect to matters not passed upon there; isn't that true?

Mr. Burkitt: That is the general aspect of 4915. We can't, for instance, start claiming a completely new subject matter, but it is my contention that we are in a position here to determine novel claims in the limitation of the subject matter discussed and refused by the Board of Appeals.

104 Mr. Reynolds: Our position in that is stated in Lucke v. Coe, 63 Appeals, D. C., page 61, in which the Court of Appeals held that new claims could not be considered in this type of action.

The Court: I had this in my own experience. I had a case from the Hoover Sweeping Company, and in that case I held [10] that we were limited to a consideration of matters that had been considered and passed on in the Patent Office. That went to the Court of Appeals, and I was reversed.

Mr. Reynolds: Not on that ground, I do not think, your Honor.

The Court: Wasn't it on that ground? 105

Mr. Reynolds: I do not think so.

The Court: I think it was.

Mr. Reynolds: It might be.

The Court: But later the Court of Appeals overruled themselves and adopted the very position that I had taken.

Mr. Burkitt: All I can say, your Honor, is that I am hoping they will reverse themselves again, then.

The Court: If nothing more is brought to light about that, of course I necessarily would have to exclude from my consideration here the two claims that were mentioned by number. I have forgotten what they are.

Mr. Burkitt: There are a group of claims which were refused entry by the Examiner, although he personally did present before the Board a supplemental statement specifically on those claims. The Board then decided that it would not take jurisdiction, because they were not entered, even though he had presented this supplemental statement on the claims.

There was a very peculiar situation. The whole case had a very peculiar complex that probably arose because of our [11] movement down to Richmond at that time. The Examiner and I were always on very fine terms on 107 this case, but it was a matter of travel to Richmond, and he tried to cooperate with me quite a good bit, but we ran up against the time element every time in getting papers filed, and this situation arose from that.

He did file a supplemental Examiner's statement before the Board on these claims which he refused admission, discussing their patentability, not the question of admission.

The Court: Now, if we eliminate those two claims, how many does that leave from that group? Do you remember?

Mr. Burkitt: Quite a number.

108 Mr. Reynolds: 58 to 63, inclusive, are the ones that the Board did not pass on.

The Court: 58 to 63?

Mr. Reynolds: Yes. They were not passed on.

The Court: Then, I was wrong in saying "two"?

Mr. Reynolds: Yes.

Mr. Burkitt: Yes; it leaves us about 19, I think.

The Court: Nineteen?

Mr. Burkitt: I am willing to drop claim 48.

The Court: That belongs to the other group?

Mr. Burkitt: That belongs to claims properly before the Court.

The Court: Then, you withdraw claim 48? [12]

Mr. Burkitt: 48.

The Court: Very well. Bring your witness, please.

Mr. Burkitt: I notice in examining witnesses in this Court you do not have to stand?

The Court: No. If you are more comfortable, just take the chair.

Mr. Burkitt: Thank you very much.

The Court: We proceed as informally as possible here. Thereupon—

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WALTER DEICHMANN was called as a witness and, being duly sworn, was examined and testified as follows:

Direct Examination by Mr. Burkitt:

Q. Your full name, Mr. Deichmann? A. Walter Deichmann.

Q. Your age and address? A. My age is 41 years. I live at 225 Horton Highway, Mineola, Long Island.

Q. You are one of the co-inventors in this case, are you not? A. That is right.

Q. You are presently employed by Cutting Room Appliances Corporation? A. Cutting Room Appliances, that is correct. [13] 111

Q. Which is one of the plaintiffs here, the assignee in the case; is that right? A. That is right.

Q. What is your position with Cutting Room Appliances? A. I am the superintendent of the experimental department.

Q. Do you have anything to do with production there? A. No; mostly in development and new work.

Q. I will call it the C.R.A. for short. How long have you been employed by them? A. It is close to eleven years now.

Q. What is the type of your employment there and what machines do you work on? A. Well, when I first started, we worked on reconstructing and repairing and overhauling machines of this type, until we developed our machine, and this one in question and others—

Q. Just a minute. What do you mean by "machines of this type"? A. Well, as you stated before, there are several types of spreading machines on the market.

Q. And the machine we have involved here is what you call a spreading machine; is that correct? A. That is correct.

Q. Before your employment by C.R.A. were you employed [14] in this type of work? A. Yes. I worked for **113** approximately four years for the Breth System.

Q. During your employment by the Breth System and C.R.A. what kind of work did you do on these various machines? A. As I said before, we overhauled them, repaired them, and improved them, if it was possible.

Q. Could you tell us about how many types of this kind of machine you handled in that period? A. Oh, I would say about 10 or 12 machines.

Q. In addition to that, did you have to read drawings or anything of that nature in your work? A. Yes, of course.

Q. Is your work in line with tool making or anything **114** like that? A. Well, that is my trade, yes.

Q. And that trade, of course, has to do with drawings and reading of drawings, and so on? A. Yes, I learned that; that is correct.

Q. Do you have any experience in connection with patent drawings and patents? A. Yes. I have been studying them since we were working on our new machines.

Q. I suppose that you are familiar with the particular machine of this application; isn't that correct? [15] A. That is right.

Q. I would like you to explain its operation as far as the phases we have discussed here are concerned, the box and the catcher and the lifting and lowering mechanism. A. Just a rough outline of the operation of the machine?

Q. Yes. A. This machine operates as follows. The material is piled on top of the carriage. It is then brought down to the box 40—

Q. Mr. Deichmann, could you refer to the figure, so his Honor can follow you? A. The carriage would be 18, I believe.

Q. On Fig. 1? A. On Fig. 1.

By the Court:

116 Q. 18, did you say? A. That is right. That is the whole assembly of the machine itself, the main part of it, you might say.

Q. You call that the carrier? A. That is the carrier or carriage, yes.

It is then brought down to the box 40, which consists mainly—

By Mr. Burkitt:

Q. Where do you see box 40? [16] A. Box 40 is shown in detail in Fig. 10, I believe—Fig. 11.

By the Court:

117 Q. Wait a minute until I find that. I do not find it on here. Will you show me? A. Fig. 11.

Q. I thought you were talking about Fig. 1. A. Fig. 11.

Q. Fig. 11. Now, where will I find it on Fig. 1? A. It is in back of these parts (indicating), but the idea is that this is the cloth that is brought down there to box 40, and from there I will continue.

Q. Yes. A. It consists mainly of blades 70, which are parallel to each other, and the end support block 60. The material is—

Q. Wait a minute. I cannot find 60. You said number 60. Where is 60? A. 60 you cannot see here.

Q. Haven't you got a diagram showing that? A. Here it shows 60 (indicating).

The Court: He is pointing to Fig. 9.
The Witness: Fig. 9; in Fig. 9. This is also part 60 here (indicating).
The Court: Yes. [17]

By Mr. Burkitt:

Q. Mr. Deichmann, I think you will help his Honor a bit if you will refer to Fig. 3, which shows the box in perspective in association with other parts of the drawing. 119 A. Oh, yes, that is right. This is the box. The material is pulled through the box and the end of it passes underneath the nearest catcher. The catcher is then pushed toward the opposite stop. As it approaches the end of its travel fingers 244 pick up arms 260—that is this here—of catcher 220 by roller 254—254 is the little roller indicated here—to which is attached bars 256 and 288—that is on Fig. 13 you can see the whole assembly—with the pins. The pins are shown in detail here. The two bars move at all times in a perfectly vertical path, and the pins always remain in a perfectly vertical position. As the roller 254 slides up on fingers 244, it lifts pins and 120 bars free of the cloth, the box 40 is turned to form the fold and to face with its open end the bars and pins. The roller 254 reaches the end of finger 244. It glides on the lug 258, which is located centrally in the box support block 60. As the roller reaches the end of the lug, the carriage reached its limit, and the roller and bars with pins drop inside the box. This drop is very small, as you can see in Fig. 11. [18]

Q. Will you tell us what happens after the pins have dropped into place and the carriage is reversed in its movement? A. This drop is very small, as you can see in Fig. 11. It is somewhat less than one inch. This drop is constant and does not vary as the box moves either up or down. A very important fact is that after the pins are dropped there is absolutely no movement of the cloth or the carriage. As the carriage comes down to the right-hand catcher—which is on this side here (indicating)—and roller 126—which is this right here—attached to lever 120—that is this little part here—is pushed inward or toward the carriage by plate 128—that is this part here; this moves against there and that turns it—this motion, through a ratchet, a train of gears, and a sprocket, moves the box up step by step. That is a description of the operation of our machine at the present time. 122

Q. Will you tell us, Mr. Deichmann, what happens when you withdraw the blade 70 from the catcher? A. There is absolutely no distortion of material at that time.

Q. You mean as the blade is withdrawn from the catcher now? A. That is correct. [19]

Q. This blade is in reverse movement now, moving away from the catcher, bars and pins; isn't that correct? A. That is right.

Q. What happens to the bars and the pins as the blade moves from under the bars and the pins? A. Well, there is practically no movement or motion on the part of either the material or the bars and pins, because, as you can 123
see in the drawing, the box is very close to the material on the table.

Q. You are talking about the box now. You mean the blade of the box? A. The blades, yes; the general assembly.

Q. What is the relation of that blade to the material on the table? Is it parallel or is it otherwise? A. That is parallel, absolutely parallel.

Q. How thick is that blade? A. That blade is one-eighth of an inch in thickness.

Q. Then, the bars and the pins drop just that eighth of an inch as the blades are going? A. I would say that is about the amount that it drops; yes, sir.

Q. Then, the carriage moves away from that particular catcher toward the upper limit; isn't that so? A. That is correct.

Q. What happens at the other limit? [20] A. Well, the same. The whole process is being repeated on the other side. The catcher, bars, rollers and whole assembly are being picked up by the fingers 244 and lifted into the box again at exactly the same level, and there is no dis-
125 tortion of the material taking place, because the fingers 244 are connected to the box support block and they always maintain the same relation to each other.

By the Court:

Q. How many fingers are there? A. There are two, one on other side, on Fig. 10.

By Mr. Burkitt:

Q. There are two fingers for each direction; isn't that so? A. Yes. Well, actually you have four fingers in all, you might say.

Q. And there are two rollers at the end, one roller at
126 each end of each bar; isn't that correct? A. That is right. In other words, you have the front and the far end to this unit.

Q. That is a matter of distributing the weight of the bar as the bar is lifted? A. That is right. As a matter of fact, you can get by with just one bar on extremely narrow machines, where there is not too much weight on the other side.

Q. You do not mean to get by with one bar? You mean [21] one finger? A. With one finger on one side only.

Q. You are talking about 244? A. Yes, sir.

Q. You could do it with one finger pointing in one direction and a finger on the same side pointing in the opposite direction? A. That is right.

Q. So, then, the function of rollers 254 and fingers 244 is to lift the catcher away from the engagement with the folds already formed and guide it up to the lug 258; is that correct? A. That is correct, it lifts it clear—

Q. Wait a minute. And the lug 258 is an integral part of the member carrying the box blade 70; isn't that so? A. That is correct.

Q. What is the position of this lug with relation to the two blades? A. It is centrally located inside the box. 128

Q. What is the position of that lug, then, as to the two directions of movement of the box? A. It always remains the same, whether the box is turned toward the right or towards the left side. That lug is always at that same height. There is no difference in the drop of the bar as it passes over that lug. [22]

Q. You mean when the roller 254 comes to the lug on the box, when the box is moving in one direction, it will be elevated to the same degree from the bottom as when the roller in the opposite direction enters the box in the opposite direction and strikes the same lug; is that correct? A. It would strike it at the same height, the same lug, that is correct. 129

Q. And it would fall the same distance? A. It always falls the same distance.

Q. And, as I understand it, that is wholly within the box? A. Inside the box, that is correct.

Q. Now, you have with you, I believe, a copy of the patent to Sussman, 1,257,421.

> Mr. Burkitt: I wanted to say at this time that I have this voluminous record, which I think we are bound to put in evidence, which is the record in the Patent Office. I think it is not going to be referred to by anyone.

The Court: It should be in the record.

Mr. Burkitt: So I will put that in the record now.

The Court: There is no objection, I take it?

Mr. Reynolds: No objection.

The Court: It will be received.

(Copy of proceedings in Patent Office was received in evidence and marked Plaintiffs' Exhibit 1.) [23]

131 Mr. Burkitt: I wanted to offer at the present time a set of the references relied upon by the Patent Office in the rejection considered by the Board of Appeals. There is a duplicate set of these references in the file that Mr. Reynolds handed up, but I imagine we have to put them in evidence, so I will put them in evidence.

The Court: They will be received as a group. How is that exhibit described, or are they separate exhibits?

Mr. Burkitt: They are separate patents, but we can put them in as one. They are the reference art relied upon by the Board of Appeals in its decisions. There are two decisions.

132 The Court: Very well. They may be marked as Plaintiffs' Exhibit 2 and will be the group of papers described by counsel.

(Documents referred to were received in evidence and marked Plaintiffs' Exhibit 2.)

Mr. Reynolds: If your Honor please, there are two patents in our exhibit, D and E, Latham and Gargolinski, which we are not relying on, as far as we are concerned.

By Mr. Burkitt:

Q. Now, Mr. Deichmann, included in the patents, Exhibit 2, which I have just offered in evidence, there is a patent to Sussman, 1,257,421? A. That is right. [24]

Q. Will you explain the operation of this particular patent? A. I have never seen this machine in the field.

I will try to explain the operation of this machine from what I see in the drawing. The machine has the usual carriage on which the material is piled. The material is then brought down through the box, which consists mainly of blades 22 and 23.

Q. What figure? A. That is on Fig. 1. The shape of it is explained in Fig. 6. It has two blades or walls, which are not parallel to each other. I point this out because neither wall can ever be flat against the material on the 134 table. As this member rolls along the table—that is the way it should be; it is in our machine—it is absolutely parallel to the table. Only one edge could possibly be near the material, while the opposite edge is the one over which the fold is formed. In other words, the material comes down this way, goes through here, and then goes around this edge (indicating). That forms the cloth.

Q. Mr. Deichmann, to make that clear, you say that the forward edge in Fig. 6 of the lower blade is the one over which the fold is formed? A. Yes, that is right, the lower blade. That is the uppermost part of the lower blade in Fig. 6. [25]

Q. Now, how do you reach that conclusion? A. The 135 way the drawing is made, the material comes in from the left side, is fed through, and comes out on the narrow side of it, and then, of course, it has to fall back again towards the left.

Q. I call your attention to Fig. 2. Will that clarify this? Do you see the line showing the direction of movement of the fabric? A. Yes, I see that.

Q. Will you tell us what you were telling his Honor, so the reporter can get your statement with reference to Fig. 2, and I think you also have Fig. 4 to substantiate that position, that the fold forming end of the box in Sussman is the narrow end of the box? A. What did you say about the box?

Q. In Fig. 4 you have a showing of a box, and, of course, in Fig. 2, and I think you will be able to tell us from these two figures why you reach the conclusion that the narrow end of the box is the one over which the fold is formed. A. It has to be the narrow edge on this figure here.

Q. Which figure is that? A. Fig. 4. You can see the box blades very plainly, and you can also see that it is narrower in the front than it is in the back, and that is the side which has the slots in it. So for that reason 137 that is the side on which the cloth [26] has to come out in order to be able to be picked up by the pins.

Q. I think, Mr. Deichmann, you referred to Fig. 6. The sectioning in that figure will help you conclude on which end the cloth is formed. A. Yes. As you can see in that Fig. 6, blades 22 and 23 are shown. The rear section of it is shaded, which means that it is a cross-section. That means that this part is the part which is open or has those slots—

Q. By "this part" you are talking about the end of the right-hand side in the drawing? A. The front part, the right-hand part of it, that is correct.

Q. You have described, then, the formation of the 138 fold by this box. Will you continue your description as to the operation of the apparatus in connection with the catcher of this patent? A. Just before the carriage comes to a stop on one side of the table, the bar 44 with pins 51 is picked up by arm 55. You can see that on Fig. 2, I believe. This is arm 44—

Q. Do you have an arm 44 in this case? A. I think I made a mistake.

The Court: Here is arm 55 (indicating).

The Witness: That is 55. That is the arm 47. This [27] arm here is 47. Bar 49 with pins 51 is picked up by arm 55, which you see here. It can be picked up from either side. It is lifted away up and, as the carriage reaches its limit, bar 49 drops all the way down, possibly 8 to 10 inches on the outside of box 22. This bar has to ride all the way up here, and then it has to drop all the way down on the—

By Mr. Burkitt:

Q. You may clarify this. You said this bar rides all the way up. You mean bar 49? A. Bar 49.

Q. Rides all the way up on tracks 55? A. That is right.

Q. And then falls down over the end of tracks 55 onto the box 23? A. That is correct. 140

Q. I take it that tracks 55 and 53 on the other side are short, so that the roller which is in position 49 passes beyond the end of that bar; is that correct? A. That is correct, yes. There is an opening in there to let the bar drop down.

Q. What is the manner of supporting these bars or members 53 and 55 on that carriage? A. Bar 49 with the pins is attached—

Q. No, not bar 49. I asked you for the members 53 [28] and 55. What is the manner of that support? A. I am sorry. They are solidly fastened to the carriage. They do not move in height. In other words, their relation to the box constantly changes as they move up. 141

Q. But their relationship to the carriage remains the same? A. It remains stationary.

Q. At the very same level for every operation of the box? A. For every operation.

Q. But how does the box itself remain? You did not tell us. A. The box has to move up as the material is being piled up.

Q. Do you have such a mechanism here? A. There is a mechanism in there, which is not very well explained, but it works with some sort of a ratchet arrangement.

Q. And what does that ratchet arrangement do? A.

That lifts the block which supports the box up a little way at a time.

Q. In this Sussman patent there is a box, is there not? A. That is correct.

Q. And there is a catcher; isn't that correct? [29] A. That is correct.

Q. What is the nature of the bars 55? Would you call them guiding means? A. 55, yes.

Q. What is their relationship to the box? Do they guide the arms 47 and their pins into the box, or where do they guide them? A. No. They go away up on top

143 of these arms. Then they drop down on to the outside of the box.

Q. What are the defects, if any, that you have found in connection with the operation of this arrangement of permitting the bars 47 and the associated pins to rise up to the very top of the fingers or bars 55 and then to fall down on to the top of box 23? A. The best way I can explain that is by showing you in Fig. 2. These are the catchers. Now, there is bracket 45 mounted, on which there is pivotally mounted an arm 47. The end of that arm, which contains the bar 49 and pins 51, never moves up in a straight line.

144 Q. Do you have a sketch or drawing for that purpose? A. I made a little sketch for this purpose to show how that pin—

Mr. Burkitt: I think Mr. Reynolds should see the sketch before it is discussed, if your Honor please.

The Court: Well, come up and see it. [30]

Mr. Burkitt: And I think we may as well mark it in evidence.

Mr. Reynolds: That is all right.

The Court: Give that an exhibit number.

(Document referred to was received in evidence and marked Plaintiffs' Exhibit 3.)

The Witness: The point that you see here is this one—

By Mr. Burkitt:

Q. Which point are you pointing to? A. On Fig. 2. I mean the pivot point of bracket 45. In Fig. 2 it is the bracket where the arm is attached. This is the lug to arm 47, and these necessarily are the pins 51. As you can see, the arm in its lowest position with the pins attached rigidly to the bar would point inward or away from the machine. In the center position—

Q. Are you talking about pins 51 in your sketch? A. That is right. **146**

Q. The little black marks in that sketch? A. That is correct.

Q. And those are the ones above the horizontal center line? Is that the one you are talking about? A. The last one I was referring to, I started on the bottom.

Q. Those are the ones below the horizontal center line? A. Below the horizontal center line. They point to [31] the right or away from the material, while the one in the horizontal center line would point straight down. The one in the upper position shows the pins pointing away inward or toward the material.

Q. What is the significance of the statement you have just made? A. The material is being pulled up, as you can see, in different catchers, and, as I have explained before, the material will be picked up in this position, approximately, which is the center position of the arm in my section, and then after it hits the box it necessarily, as I told you, as I think I mentioned before, has to drop another two or three inches. **147**

Now, in that drop—

Q. Now, Mr. Deichmann, I think at that time you should tell us—I do not think you did tell us before—the relation to the box 23. A. Yes. I did not quite finish the explanation of the operation of the machine. The carriage has then pulled out of the—

148 Q. Wait a minute. In this box 23, when the bar 49 falls on top of it, that bar is not down at the table or the floor level as yet, is it? A. No; it can never be down at table level.

Q. When it is on the box? A. You are referring to the— [32]

Q. Catcher bar. A. The catcher bar resting on top of the box?

Q. That is correct. A. Yes.

Q. Now, when that is in that position, with the bar resting
149 on top of the box, the bar is not down at table level? A. No. That has to drop an additional—

Q. Wait a minute. Which of the blades of the box is the catcher bar then resting on? The bottom or the top one? A. The uppermost one; the top one.

Q. And that is spaced from the table by the distance between the two blades, is it not? A. Plus an additional distance which, of course, I can only guess, but which I assume to be somewhere around two inches.

Q. And what is that distance on Fig. 6 of the Sussman patent? A. There is nothing on there. That is the cross-section of the box.

Q. That will give you an idea of the difference in dis-
150 tance, won't it? A. You mean the width of the box itself? I would say that this is about a half inch in width in actual size, and I would say that the box itself, the bottom part of the box, would be somewhere around two inches away from the table in [33] its lowermost position.

Q. Now, I call your attention to Fig. 2, where you see the angle that the cloth takes after it leaves the box. Does that also have anything to do with the distance of the cloth above the table as it passes from the box? A. Yes, because it is not parallel to the mechanism.

Q. Would that add on to the distance the bar has to fall after it leaves the top of the box? A. Yes, it would.

Q. Now, taking all those factors into consideration and considering the sketch that you have there, Exhibit 3, will you tell us what effect that distance of drop would have upon the length of layers pinned down? A. Well, the pins, starting from the center position again, in the center position would leave the material on the table undisturbed, more or less; but as the arm drops from the center position to the low position, it would pull out more or it would tend to stretch the cloth, as you can see here. It grabs the cloth here.

Q. Mr. Deichmann, to make it clear, I think your sketch is made on cross-section paper, is it not? A. Yes. 152

Q. How many spaces over does your sketch show between the vertical position of the pins and the lowermost position of the pins? [34] A. This distance here is roughly three-sixteenths. It moves over about an inch and a quarter in motion.

Q. Are you talking about your scales? What are the scales as between this drawing and the actual size of the machine? A. I would say this is about half the size of the actual mechanism. Of course, if I have three-sixteenths, and the actual size is twice as much, that would mean that this distance ought to be twice as great.

Q. Therefore, from your sketch you conclude that as the bar would fall from a perfectly vertical position to the 153 bottommost position, you would have a change at least three-eighths of an inch in the length of the layer? A. Yes.

Q. Now, will you tell us what happens above the center line as the layers pile up? A. Well, as they keep on going up, the further up the cloth goes, the more pronounced that would be—that is, the arm in its uppermost position. There would be pins pointing inward toward the cloth. It would have the tendency of pushing the cloth together, or wrinkling it up.

Q. Now, I call your attention to the fact that in the position above your center line your pins are in the position in which the box moves away from the catcher. Isn't that so? A. That is in the top position. [35]

Q. Would that have any effect upon the layer which is caught on the pins as the box moves away? A. If it is in that position, or, rather, in the position above the center, it would always have the tendency to slip away from the pins. If you pull on here (indicating)—

Q. You are pulling on what, now? A. You are pulling down on it, so to speak, and away from it.

Q. You are talking about the position of the pins above the center line? A. Above the center line, that is right.

155 Q. And in no case, as I understand it, then, does the bar actually enter the box 23, but deposits itself upon the top face of the top blade; is that correct? A. That is correct.

Q. With reference to these fingers or rolls or guiding means 53 and 55 of Sussman, you stated that they were fixed with relation to the carriage; isn't that correct? A. That is right.

Q. Not fixed with relation to the box; isn't that correct? A. No.

Q. You, therefore, I take it, find that these fingers or
bars 53-55 are not carried by that box 23; is that cor-
156 rect? A. They are not carried by the box; they are
carried [36] by the frame itself. They have no connection
with the box.

Q. Now, I want you to turn to the Isaacs patent, 819,548. Will you tell us how this particular patent works, if it works? A. This Isaacs machine, number 819,548, also consists of—

Q. I think, for ease in discussion, I will call it Isaacs 819 and the other one 1338, instead of giving the whole number. A. This is the sketch that I am referring to (indicating). Referring to Fig. 1, you can see the machine or carriage and the two catchers on either end of the table. The cloth is there piled on top of it again.

It is worked down into, as they call it in the drawing, a fold former. The fold former consists of two separate and distinct members, each one operating independently from each other. As a matter of fact, they get into the way of each other, as you can see on Fig. 2, if you will look on the bottom, where you see number 39 and 47. This is 39, the bracket, and 47, I believe, is a little projection or roller which is supposed to support the material. As the machine approaches in this direction—

Q. Which direction? A. Toward the left, it lifts this finger 35 on that inclined surface that you see here, 158 pushes it out of the way, [37] so that this part here—

Q. Which part is that? You have to identify it, because we do not know what you are talking about. A. The cam 35 is being picked up by the inclined surface. There is no number on that. I am sorry I can't explain it any more.

Q. You can see that, can't you, in Fig. 1? A. And in Fig. 2 it is much more clear.

Q. The cam surface is shown in Fig. 1, isn't it, as 45 and 46? A. Oh, yes. That is 46. 46 is the actual incline on there, on Fig. 1. That is where the part that you see on the next page on Fig. 2 is. This is the inclined surface, 46. Now, that pushes a blade member, I 159 would call it, out of the way of the material—

Q. Now, you are talking about the blade former in Fig. 2 to the left, which is the one that is not forming a fold at that time; is that correct? A. That is correct.

Q. The fold is being formed on the blade former to the right at that time? A. Yes.

Q. And the fold former at the left has to get out of the way of the fold former at the right? A. Right. [38]

Q. And that is the purpose of the cooperation of cam 45 and 46; am I correct? A. Yes.

Q. The fold is being formed then by the fold former on the right-hand side; is that correct? A. That is correct.

Q. Will you tell us how that proceeds to form the fold and how the fold is caught at the end of its travel? A. Well, I studied this drawing quite a bit. I looked it over very carefully, and, according to the way the prints are made, this mechanism cannot work at all.

Q. How is it supposed to work, in the first place? A. The way it is supposed to work in Fig. 9 on the same page, you have on the part 39 attached a part 54—

Q. Part 39 is shown in Fig. 2, is it not, and that is the pivot member? A. Yes; that is the inclined surface there that is shown in cross-section.

161 Q. And that part 39, you said, carried the member 54? A. The member 54 is attached to that. You can see that in Fig. 9.

Q. And how is that supposed to operate? A. It has a very small cut out on the end which forms—

Q. On the end of what? A. On the end of the catcher member on Fig. 9; on the [39] end of 39.

Q. That cut out that you are talking about is part of the member 54, is it not? A. That is right.

Q. And that forms the finger 55; isn't that correct? A. That is right.

Q. Now, how is that supposed to work together with

162 the fold former 37? A. Well, as I explained before, the way it is shown in this drawing, Fig. 9, it cannot work, because the part 39, the straight edge that you see of part 39, is supposed to move up on the blade with the post 28 that you see just above that.

Q. They are the parts that are shown in cross-section? Parts 28 are the parts shown in cross-section; isn't that so? A. That is right.

Q. What are they supposed to be? A. Well, they are posts, or screw posts, which move these blades in relation to the table.

Q. Do you see them in Fig. 2? A. Yes, you do see them. They are marked 28 there also.

Q. They extend all the way up from the blade 27 right up to the top of the carriage, don't they? A. Yes; at least to the mounting, they do.

Q. Will you tell us, then, in relation to member 39 and [40] these rods 28, why it is that you conclude that the parts can't work? A. Well, the front edge of part 39 would, of course, hit the outer edge of bars or rods 28 and 29.

Q. What would happen? A. That edge would reach these bars without the lug that is being formed by that cut-out on piece 54. It can't possibly fall over the rear end of 36, which it is supposed to do in order to work properly. 164

Q. You did not tell us exactly why that falling over the end, over the plate 36, was of any importance here. A. I will have to refer to another figure in the preceding page, Fig. 6, in the lower right-hand corner. In this drawing it shows one-half inch. It shows this to be one-thirty-second of an inch—

Q. Which distance are you talking about? A. The distance from the front edge of part 39 to the lug.

By the Court:

Q. That is in Fig. 9? A. The reason for this 54— 165

By Mr. Burkitt:

Q. I think I can make this a little clearer for you. Plate 39 is lifted by the engagement of the finger 55 with the plate 36; isn't that correct?[41] A. That is right.

Q. But the plate 39 comes to a stop, it must come to a stop, against the rods 28? A. Yes.

Q. Which are fixed at positions across that blade 28; isn't that correct? A. That is right.

Q. So that the front edge of this member 39 can't get away from or can't go beyond these rods; isn't that so? A. That is correct, sir.

Q. What is the relationship of that to the distance of the finger 55 and the end of the member 36 when that stop takes place? Can the finger 55 go over the end of the member 36 as shown in Fig. 9? A. It cannot do that, as explained in Fig. 9.

Q. Now, I want to call your attention to another thing. You see the member 54 with its finger 55 on both sides are directly in line with respect to the cam plates 36; isn't that right? A. That is right.

167 Q. If member 54 is solid, as it is shown, and the finger 55 is an integral part of the member 54, can you tell us whether or not this member 54 and its attached finger could get by member 36 in falling? A. It cannot. [42]

Q. Why? A. Because it is not the proper construction.

Q. What is the construction that is not proper here? Why won't it get by? A. Well, first of all, as I explained before, the member 39 cannot get by the posts—

Q. No; I am not talking about the posts. I am talking about the fact that the member 54 is a solid piece and is of the same extent as the cam 36. When it falls down, where will it fall? Will it fall to the side or will it fall on the member 36? A. It is supposed to fall over the back of it. 168

Q. Will it? Can you answer that question? Will it fall beyond it or will it fall on plate 36? A. The way the drawing shows it, of course, it will fall on 36.

Q. But it will not do what is shown in Fig. 6, where it is shown to fall beyond it? A. No, it does not.

By the Court:

Q. Is that different from falling back of it? A. Yes. That is very important. If it would fall back of it, that is what it is supposed to do, because as it falls in back of it, this part here in Fig. 6, the center part, is what they call the gripping means. This is supposed [43] to hold the cloth. Now, the finger here is supposed to lift this clear of this inclined surface. The finger is supposed to lift the gripping means off the inclined surface until it reaches the end of its travel.

By Mr. Burkitt:

Q. That is finger 55, you are talking about? A. That is right; but the way it is constructed here, it can't possibly be done, because this cut-out, first of all, is much too narrow. If that was lengthened, it would still hit those posts. They are marked, as you can see here, right in the center of this blade, so that there is no room for this mechanism to slide on to. 170

Q. And also isn't there metal in the bar 54 directly in line of the metal of member 36, so that they would not be able to pass through each other? A. Yes. That is what I pointed out. That is in Fig. 9.

Q. I think you have also discussed the fact that member 39 is a pivot member; is that correct? A. Yes, it is a pivot member.

Q. Would that have any bearing on the position of the end fold, if this mechanism could work as the patent describes it? A. If it could work, it would have a very great effect on it, which I also have a little sketch for here. [44] 171

> Mr. Burkitt: I would like to have that particular sketch marked in evidence.

The Witness: This is on the same general principle as this part here, but there are no pins in this piece. I am just showing the effect that this has, as you can see in this figure here—

Mr. Burkitt: Mr. Deichmann, so that we have this clear, will you let the clerk mark that?

> I think Mr. Reynolds accepts it.
> Mr. Reynolds: Yes.

(The sketch referred to was received in evidence and marked Plaintiffs' Exhibit 4.)

The Witness: It stopped at 44 and 45. It means that the machine—

By Mr. Burkitt:

Q. Wait a minute. Now, this is Exhibit 4, and you have made this Exhibit 4 in connection with the Isaacs patent, 819,548? A. Fig. 2. As you can see on Fig. 2, on the left side of the drawing, there is a stop 44-43, I believe
173 it is. That shows that the machine will always stop at the same distance.

Q. What does that mean as to the position of the blade 37 or 27? It is 27 in one view. A. Yes, 27. That means that that will not change its relation to the blade 27 at any time. [45]

Q. You mean the stop and the blade at the end position will always have the same relation regardless of the vertical adjustment of the blade; is that correct? A. That is correct.

Q. Now, will you discuss, then, the position of the catcher 39 in relation to that blade in its various positions? A. Now, here we have various position. This
174 represents the member 39; this line does. This part you see here—

Q. You talk about member 39. You have that shown by what in your figure? A. Just by straight lines in various positions.

Q. I think there are some dots on the lines to show the various positions? A. Yes; a dot on the end of it would correspond to the end of this part here (indicating).

Q. What is that? 55? A. In Fig. 6 it would be 54.

Q. What is the end in Fig. 6? That is 55, is it not? A. That is 55, yes. That is the very end of the line, as I told you.

Q. Then I think you have a little circle on that line also. What is that supposed to be? A. That circle is supposed to be what represents the gripping means in the Isaacs patent.

Q. I think that bears the number 47 in Fig. 2 of this [46] patent; isn't that correct? A. 47 is correct, yes.

Q. Now, you have another dot back from the end of the line. What is that dot supposed to represent? A. That is supposed to represent number 55.

Q. The one back from the end is supposed to be the opening, isn't it? A. The one furthest out is the number 55. The other line that I have in there is what would correspond to the cut-out. That is 54.

176

Q. All right. Explain the operation of your drawing. A. This arm here will always remain in the same position. This is fixed on to the table.

Q. You are talking about the arm 43 in Fig. 2? Isn't that the stop arm that you are talking about? A. Yes, 43. That is also part 39 hinges on this same hinge 43. This part here represents this hinge that is shown in Fig. 2. Now, as this member moves up—I have shown it in five various positions—you can see that the gripping means keeps going back more and more. That means that the stop on the machine, if it would work, mind you—I cannot see how it can work, but if it would work, the machine would have to be adjusted in such a way that it 177
stops with this part in this top position. [47] That would mean that as it was forced down further, it would actually push up on the inclined surface, which would actually push the material up; and this way it cannot stay away from the material, because it is supposed to be lifted up clear and then up, but in neither one of these upper positions can you get the gripping means away from the material.

Q. Let me get this clear. In your topmost position which you have shown on that sketch, I believe that finger 55 falls over the end of the cam 36? A. That is correct.

Q. And then the gripper 47, which is the little circle in your sketch, falls against the face of the member 36? A. Of the inclined surface, that is right.

Q. But when you move that blade 27 down, as it would have to be in the first portion of its movement, you find that the finger 55 actually falls and brings the gripper 47 into contact with the face of blade 27, if it could get by the bars, and then the blade has to keep moving because it has not reached the end of its movement? A. That is right.

Q. And the member 47 actually moves along with the fabric on the blade? A. With the fabric sliding over the blade. 179

Q. Now, which would be the direction of the fabric on the blade 27 at the time of this movement of the member 47 on [48] the blade? Would it be with the fabric or would it be contrary to the fabric? A. It is against the fabric.

Q. How do you arrive at that result? A. As the material is being pulled over the blade, it has to move twice as fast as the member itself moves.

Q. Do you find that in Fig. 6? I think you will be able to show it there? A. In Fig. 6 the material is coming down this way. This part—36, did we call it—moved
180 inward while the cloth is being pulled down here in this direction; so that would mean that it has to push the material up here, but at the same time the material has to come around here, too, because the lay is not as yet finished.

Q. I think you worked out a different piece there to show the different positions of this blade 27 as it moves into the engaged position? A. That is right.

> The Court: I think we will have to save that until tomorrow morning, so that I can talk to these other gentlemen. Be back at 10 o'clock.

(At 3:30 P. M. a recess was taken until Friday, October 15, 1948, at 10 A. M.) [49]

Washington, D. C.,
Friday, October 15, 1948.

The above-entitled matter came on for further hearing before Hon. F. Dickinson Letts, District Judge, in Civil Division No. 3, at 10 A. M. [50]

> The Court: Mr. Burkitt will resume the examination.

Thereupon WALTER DEICHMANN, resumed the witness stand and testified further as follows: 182

Direct Examination (resumed) by Mr. Burkitt:

Q. Mr. Deichmann, we were talking last night about the Isaacs patent 819,548. I now ask you, in connection with the operation of finger 55 on cam 36, to explain why, if finger 55 could get in Fig. 9 above the upper end of cam 36, it still could not fall over that end. A. The reason why the member 54 and the hook 55 cannot go past the upper edge of member 36 is because the member 54 is perfectly in alignment with member 36, so even if the hook does get past the edge of 36, it cannot fall down.

Q. Where would it fall, then? A. It cannot fall. If it would fall, it would fall right on to the member 39. The member 39 will fall on 36. 183

By the Court:

Q. Where is 39? A. (The witness indicated.)

> The Court: I thought we were talking about over here (indicating).

By Mr. Burkitt: [51]

Q. You say 39 would fall on 36, or would it be that the part at 54 would be on 36? Isn't that so? A. Yes, it would be on 36.

Q. Now, you have, in addition to that, I believe, a factor shown in Fig. 6 where the finger 55 is shown as past the end of the upper level of that triangle. These are marked with 36, but it has no number applied to it at all. Do you see that? A. Yes. This is really what is referred to in the other drawing as member 36. It seems to be an error that the pin is pointing down instead of up. They marked the wrong surface.

Q. You mean the 36 is applied to the wrong surface? A. Yes; it applies to the upper surface of the figure.

185 Q. Now, can you tell us in this Fig. 6 whether that gripper, which has no number applied to it but which, from Fig. 2, is 47, is pressing that fabric against any surface? A. No; it can't possibly do that, because the member 36 is necessarily narrow. That means that it is only about an inch in width.

Q. Where do you find that? A. You find that in Fig. 9 again.

Q. All right. Continue. A. That means that the rest of the blade, 26 and 27, could not come in contact with the gripping means or the [52] cloth.

Q. What do you mean by the gripping means in that
last statement? A. The gripping means would be this
186 member 47 in Fig. 2.

Q. Do you have a sketch to demonstrate your statement? A. I have an enlarged view of the sketch, which I would like to show to his Honor.

Q. May I see that first for Mr. Reynolds? A. All right (producing a document).

> Mr. Burkitt: Will you mark that?
>
> (Sketch referred to was received in evidence and marked Plaintiffs' Exhibit 5.)

The Witness: Here I have an enlarged view of Fig. 6 of the patent drawing. That shows that the member 54 with the lug 55 has gone over the end of member 36. Now, this sketch shows that the gripper bar, which I think is number 47, is resting on the inclined surface of 36. Even if the gripper bar 47 would be made shorter, it could never come in contact with the blade 26-27.

By Mr. Burkitt:

Q. Where is that? A. That is still in Fig. 6.

By the Court:

Q. Are you talking about Fig. 6 or Fig. 9? [53] A. No, Fig. 6. This represents Fig. 6. This is an enlarged view of Fig. 6. What I am trying to show in this position is that if the gripper bar, which is represented by this dotted line, was made shorter and, naturally, went over the whole length of member 39, it could still not fall down on to the blade 26-27. 188

By Mr. Burkitt:

Q. What you are saying is that, as shown in Fig. 6, gripper 47 is shown as in engagement with the cam surface 36; isn't that correct? A. Correct.

Q. In that case, then, the gripper 47 never is in contact with the surface of the wedge 26 in Fig. 6? A. That is correct. 189

Q. In which member 26 is the fold forming blade itself? A. That is the fold forming blade.

Q. While the cam 36 just has a very small extent, as shown by Fig. 9? A. In Fig. 9, that is correct.

Q. But even if you cut off a piece of gripper 47 so that it will be short of and not fall on cam 36, it still would not be able to get down to the level of the top face of blade 26; is that correct? A. That is correct.

Q. Then, what would this figure seem to indicate, as [54] far as the cloth is concerned? A. The cloth can never be actually pressed against the member 26 and 27.

Q. This view, however, shows the cloth curled around member 37, doesn't it? A. Yes, it does, partly.

Q. Do you know where the cloth passes to from the end of that gripper? A. It passes toward the left edge over member 26 and 27.

Q. And how about the upper extent of the fabric? A. The upper extent of the fabric passes apparently around member 39.

Q. Well, is there any opening there at the position of the gripper in Fig. 6 actually for the cloth to pass through? A. In Fig. 6, no, there is not any. It is not shown in that figure.

191 Q. Looking at Fig. 9 in conjunction with Fig. 6, there is no opening there at all, then, for this fabric that is shown in Fig. 6 going upwardly; is that right? A. That is right.

Q. So that this is an error? The cloth could not possibly go through the solid member there; isn't that correct? A. That is correct.

Q. Where is the only part where this cloth could pass [55] through the gripper bar in Fig. 6? A. It could only pass over the member 39.

Q. At the very edge of 39? A. At the very edge of member 39.

192 Q. And in Fig. 9 the edge of 39 is coincident with the edge of the slot that forms the finger 55; isn't that so? A. That is correct.

Q. So, therefore, in Fig. 6 the cloth would have to pass that line marked 54; isn't that correct? A. The line marked 54 it has to pass.

Q. It could not pass at any other position? A. No.

Q. Now, in addition to those features which you have discussed to show that the patent to Isaacs does not show an operable structure, I think you have little pieces of wire there to demonstrate another factor that we have not brought out as to the effect, if it were possible for pin 55 to pass beyond the end of the cam 36 shown in this patent? Will you demonstrate with those pieces of wire? A. I have two pieces of wire here. One represents the inclined surface 36.

Q. That is a clip that you have bent? A. It is just a paper clip which I bent. This represents the inclined surface 36.

Q. By "this" you mean the angular edge that goes up to [56] the end point? You have a free edge or free end there? A. That is correct. Now, I have another pin which has one end of it bent at an angle, as you can see.

Q. At right angles to the body, isn't it? A. It is at right angles to the body. This pin represents member 54 and with the hook 55 at the end of it. Now, as the 194 hook 55 slides up on member 36 and it comes to the end, it will fall down, as you can see here; but as you try to pull it out, it is impossible to get this hook 55 out of the member 36.

Q. Now, referring to that motion that you show in moving the representation of member 55 through the angle of the blade 36, what is that motion actually in the machine? A. That motion means, since the member 36 is attached to blades 26-27, that the carriage moves away from member 54 and 56.

Q. You mean when the carriage reverses to go backward after having formed the fold, that would be the 195 movement that you have demonstrated there? A. That is correct. You could not pull the carriage away from the catcher.

Q. Now, Mr. Deichmann, after we have shown how this patent shows the completely inoperable structure, I want you to consider that the patent does show an operable structure [57] and to tell me whether you find in this patent any means for guiding a gripping means into the fold forming means? A. No, there is no such provision.

Q. Do you find any sort of a U-shaped member in this particular patent? A. There is no U-shaped member. There are two separate members working independently from each other.

Q. Now, I would like you to discuss the other Isaacs patent, 1,338,570, and explain how it operates. A. This machine has the usual carriage on which the cloth is piled. It has catchers on either end of the table. The cloth is brought down into the box, which in this case has the blades 22 and 23. The material is put under one catcher, and then the machine is moved to the other end, where the box 22 and 23 is turned around manually, and then the carriage pushed into the catcher, which is represented by the upright 13, the arm 14, and roller 17 in Fig. 1.

197 Q. Will you describe that roller and its action? A. The roller has barbs or hooks on its outer surface. These barbs point in one direction. The roller has on its end a ratchet and pawl arrangement, which allows the roller to turn in one direction only.

Q. You said the barbs are directed in one direction. Will you specifically point out what that direction is? A. It is away from the cloth or from the pile of cloth [58] that is on the table or being laid.

Q. Aren't they actually all at an acute angle to the surface of the roller? A. They are at an acute angle to the axis of the roller.

Q. I think you would do better if you discussed that
198 relationship to the showing on Fig. 4 of this patent. A. Well, in Fig. 4, you can actually see where the barbs are apparently pushing right through the cloth.

Q. Where do you see that? A. On Fig. 4.

Q. The line of the cloth is what? A. The line of cloth—I believe it is marked 20—passes from the very top of the figure over bars 27 and 28, and then it sets down through the box, and it passes over the roller 17. As you can see in the drawing, the barbs are actually shown through the cloth 20.

Q. Now, what significance does that statement have? A. In the explanation of the operation of the machine in this patent, they have described these barbs: "The roller is suitably weighted and is enveloped by a cover having inclined brush-like tufts, such as are found on nap-raising machines,'' which is not desirable at all to have, for the simple reason that these tufts or barbs will tear the fabric or the fiber [59] of the fabric and would damage the material.

Q. When would the tearing take place? A. The tearing would take place at the time that the box approaches with the carriage. The roller and the bottom part of the box would actually have to force itself under the layer that had been formed before. 200

Q. In that relation will you tell us whether or not the roller 17 ever leaves the fabric or ever is lifted clear of the fabric? A. It never leaves the fabric at all; it is in contact with it at all times.

Q. And then you said that the box 22-23 is actually shoved between the roller and the layer upon which it has already been disposed? A. That is correct.

Q. And in that motion of shoving the wall of the box between these two members, that is where the tearing takes place? A. That is correct.

Q. Is there any importance in this length of the fold in relation to the use of the goods in the trade? A. Yes, of course there is. 201

Q. Will you explain why this tearing at the very fold is of importance in the trade? A. Well, naturally, when the material is laid on the [60] table, the people like to lay it as short as possible in order to save material, and they would like to use every last inch of it without any waste, if possible. Now, there are, for instance, people that work on umbrellas or pillows which use the last part of the lay which is already folded, and it is cut in such a way that by opening it up, you get a full piece of usable material.

Q. You are talking about this actual fold end being utilized; is that correct? A. The folded end is utilized, that is correct.

202 Q. What would be the detriment, then, if the barbs tore that fold end? A. Well, I mentioned before that people that make umbrellas could not use this last piece by any means. That of course, is only one instance.

Q. Is this arm 14 which supports roller 17, any different from the pivotal arm of the Sussman patent we were discussing? A. No, it is not.

Q. Well, then, do you find whether or not this pivotal arm 17 and the roller 14 have the same defects as in Sussman as to the travel of the contact part? A. Yes, they do.

203 Q. Will you state that in connection with this Isaacs 1338? A. The roller necessarily has to swing on an arc, as [61] you can see on Fig. 1. So that roller goes up higher as the material is being piled on the table. It again describes an arc and, as it seems, as shown in the drawing, there is no other stop than the roller in the box of the carriage itself.

Q. I think you presented a sketch which was marked Exhibit 3, in which the position lengthwise of the table was shown to vary with the different levels to which the box was raised. A. That is correct.

Q. Does that apply in this case, too? A. It definitely
204 does. Instead of the pin on the end of the bar 14, we have the roller 17. Now, that roller moves exactly in the same path as the pin moves in the Sussman machine.

Q. So that as you adjust the box vertically to accommodate the various layers, you would say that the position of contact of the roller at the end position of travel of the carriage would be different for the successive layers? A. That is correct.

Q. What effect would that have on the length of the layers, then? A. Well, they would get shorter toward the middle and they would get longer again toward the top of the layer.

Q. Do you find any guiding means here for that member

205 17 that is carried by the box 22? [62] A. No; there are no guiding means at all.

Q. I want you to turn to the lifting means of your machine and explain that specifically before we discuss the Schneider and Cutter patents. I am talking about the chain lift, now.

By the Court:

Q. Has this Isaacs machine been in use in the industry? A. I have never seen it, your Honor.

By Mr. Burkitt: 206

Q. Mr. Deichmann, I just want to ask you, Do you think you have seen just about every one of the spreading machines in the industry? A. Well, I have seen a very great many of them.

Q. Over a period of some years? A. About 15 years.

Q. About how many companies are in the field of spreading machines, manufacturing? A. Manufacturers, there aren't too many. I would say about six.

Q. Six in the United States? A. That is right.

Q. Do you know all of them? A. I could not say.

Q. Now, explain the operation of the lifting mechanism for the box in your machine. [63] A. The mechanism itself is best described in Fig. 4 and 5. That is on the C. R. A. machine. 207

> The Court: I have not got that here.
>
> Mr. Burkitt: You can have my additional set. I have another set of these.

The Witness: As the machine or the carriage approaches the right side of its travel, the roller 126, which is shown in Fig. 5, makes contact with the plate 128, which is shown in Fig. 1. As the roller makes contact with the plate, it moves the arm 120 upward and inward. That means toward the carriage or the left. On that arm 120 is mounted a pawl 122, which engages into the teeth of a ratchet 110. The motion of the lever 120 makes the ratchet 110 turn a certain distance. To the ratchet 110 is attached a pinion 106, which engages into a gear 104, which has attached to it a sprocket 82, which you can see in Fig. 4. The sprocket 82 is connected to a chain. This chain goes through a support block which moves the box assembly up.

By Mr. Burkitt:

Q. Is that box assembly 66? A. The box assembly is
209 shown in Fig. 9 and 10. Now, by moving the plate or cam plate 130 toward the [64] right and locking it in position, you can increase the travel of the box assembly.

Q. I gather, then, that you have a plate 130 there which is pivotally mounted so that it moves the pawl 122; isn't that so? A. That is correct.

Q. Or clears pawl 122? A. Yes.

Q. And permits it to engage more teeth of the ratchet 110? A. That is correct. It limits the travel of the lever 120 with the roller 126 attached to it.

Q. So, then, as I understand it, the arm 120, which carries the roller 126, engages a stop on the table at the
210 limit of movement of the carriage in one direction? A. That is right.

Q. And that arm carries the pawl 122 and is moved so that the pawl 122 turns the ratchet 110, which in turn, through the two gears, finally transmits a short motion to the chain and thereby lifts the box a predetermined amount? A. That is correct.

Q. And that amount can be varied by your adjustment of the plate 130? A. That is right.

Q. Now, tell us the relationship of the parts 120, 130, [65] and the gears to the chain assembly 82—82 is the sprockets—and the chain carried by the sprockets. A. The relation of that to the carriage? Well, it is substantially in one plane.

211

Q. You are talking now about the parts 130 and the assembled mechanism there; isn't that so? A. That is right.

Q. Are they parallel or not parallel to the assembly of chain 78 with the sprockets 82? A. Yes, they are parallel.

Q. Does that have any significance in connection with the commercial operation of machines of this type? A. Yes. The construction of this assembly is such that it is very simple and compact and I might add, it is efficient. There is very little friction. 212

Q. Could you tell us where machines of this type are generally used and what relation this mechanism would have to that? A. Well, these machines are generally used in the cutting rooms, where there is very little space between the aisles, and it is of the greatest advantage to have the machine or to have no projections or very little projections on any of the machines that are running over the tables.

Q. As a matter of fact, the machines themselves run on tracks which come almost to the very edge of the table or [66] even beyond it? A. They are mostly mounted on the outside edge of the table.

Q. Where is this mechanism with relation to that edge of the table? A. It is practically in line with that. 213

Q. Now, will you refer to the patent to Schneider and tell us how this particular patent operates? That is 2,203,970. A. The Schneider patent has no automatic lifting means.

Q. How does his lifting means work? A. It works with a sprocket assembly.

Q. Will you designate the parts and tell how it works? A. In Fig. 1 you can see the carriage. On that carriage you see a chain indicated by number 36, which has on its upper end sprockets 40 and 42 and at its lower end another sprocket 32. Now, by turning the hand knob—I believe the number is 40—you can either raise or lower the fold forming means.

Q. That is a manually operated means; is that correct? A. It is manually operated.

Q. That is the chain and sprocket assembly. Does it have a U-shaped member for fold forming? A. It has not.

Q. Does it have any automatic means at all for raising [67] the box as the layers are laid down on the table? A. No, it has not.

Q. Now, in that relation, will you turn to the patent 215 to Cutter, 1,866,088, and explain the operation of this apparatus, if you can? A. Well, there again you have a carriage on which the cloth is piled and the carriage is pushed back and forth. The only trouble with this machine is, as you can see in Fig. 1, you have a catcher on the left. On the left-hand side of the drawing you have a catcher part—

Q. What is the number? A. It is designated by number 39.

Now, as you can see, since the fold forming means are on the right side of the machine—

Q. What are the fold forming means in this case? A. 216 They are a blade or some blade assembly with the numbers 24 and 25.

Q. In Fig. 1 what numbers show that assembly and its location? A. It is not very clearly shown in Fig. 1.

Q. Pick out a reference character closely adjacent to it and indicate that reference character. A. I would say 23 or 33, which would be in the position where this fold forming means are.

Q. Is that the fold forming means for both directions [68] or merely for one direction? A. That is for both directions.

Q. And how do you arrive at that conclusion? A. There is a gripping means on the left side of Fig. 1, which you see is number 41.

Q. You did not get the purpose of my question, Mr. Deichmann. In Figures 4, 5 and 6 I think you have views showing the fold forming means; isn't that so? A. That is right.

Q. Isn't that a single assembly for both directions of movement? A. That is right.

Q. And that whole assembly, then, is at the very right-hand end of the carriage; isn't that true? A. It is at the right-hand end of the carriage.

Q. Now, will you continue to explain the reason why you think this machine will not work? A. Now, the part 41 in Fig. 1 has to reach the fold forming members 24 and 25, but it can't possibly get by there. As you can see, the top of the structure 39 can't possibly get by the carriage or, as far as that goes, even the material which is piled onto the top of the carriage. 218

Q. In other words, the top of the member 39 is far above the bottom of the piled fabric on the carriage; isn't that correct? [69] A. That is correct.

Q. So even without considering all of the mechanism that comes below the top of the table, it still, merely by considering the fabric alone, shows that this mechanism at the left-hand end could not get under the table? A. That is correct. 219

Q. And, therefore, the particular fold former 41 at the left-hand end of the apparatus would not be able to permit the fold former at the right-hand edge of the carriage to lift this fold; is that right? A. That is right.

Q. Now, aside from these factors of inoperativeness, will you tell us how this fold former is supposed to be lifted up progressively, taking care of built up layers? A. They have in Fig. 2 a rack 34, which engages into a gear. The rack is pushed by a member 45-B, which turns the gear to which it is engaged. That gear turns a screw. On the screw is mounted some block, to which is attached the blades 24 and 25. Now, by pushing the rack 34, you rotate the gear 32. In this way you turn the screw—I believe it is 27—and in this way elevate or raise the mechanism which holds the blades 24 and 25.

Q. What is the plane of the gear, the ratchet, and the pawl in relation to the screw which lifts the fold formers in [70] this Cutter patent? A. Well, it is at right angles to each other.

Q. And the operating mechanism in your patent, you said, was parallel to the sprockets; isn't that so? A. That is correct.

221 Q. Now, can you tell me whether it would be possible for you to take the rack, pinion, ratchet, pawl, nut and screw of Cutter and make Schneider work to lift his chain-held box into position? A. No. You would have to throw away the chain in order to do that.

Q. In other words, you are saying that you could not use any part of Schneider; you would have to use every part of Cutter? A. That is right.

Q. So that you could not combine the two of them; you would have to use the Cutter mechanism entirely? A. I would say that.

Mr. Burkitt: You may examine.

222 *Cross Examination by Mr. Reynolds:*

Q. Mr. Deichmann, you are one of the joint inventors of this application; is that right? A. That is correct.

Q. Did you ever see a machine constructed in accordance [71] with the disclosure of any of these patents that you have referred to in your testimony? A. Yes, I did.

Q. Which ones? A. The Sussman, and I saw a similar Cutter machine, or something that looked like the Cutter machine.

By the Court:

Q. Which patent? A. That is 1866.

By Mr. Reynolds:

Q. Cutter; is that right? A. Cutter, yes, C-u-t-t-e-r.

Q. That is, you saw the Sussman machine and the Cutter machine; is that right? A. I did not see them the way they are in the patent, but I saw a similar machine, because, you see, some of these patents are quite old.

Q. Did those machines that you saw operate? A. Yes, they operated. 224

Q. And with respect to the other patents, you have not seen the machines of the type described in the Isaacs patents and the Schneider patent? A. I have seen a similar Isaacs machine, yes.

Q. Which Isaacs patent is that? A. That is the 819, I believe. [72]

Q. 819,548; is that correct? A. That is right.

Q. Did that machine operate? A. Yes, it did.

Q. Haven't you been testifying as to why it would not operate? A. I said it was not this machine, because this machine was patented in 1905 or 1906.

Q. When I say Isaacs machine, I mean machine built in accordance with the disclosure of the Isaacs patent. A. No, that I have not seen. 225

Q. You have not seen machines of that type? A. No.

Q. Does that apply also to the Sussman and Cutter machines? A. Yes, it does. I have never seen any of the machines exactly as they are described in the patents.

Q. Have you seen machines that were substantially as described in any of the patents? A. Yes.

Q. Which patents? A. Well, as I explained before, the Cutter and the machine which was built something like a Sussman machine.

Q. That is, you saw machines that were generally similar to a machine of the Sussman patent and the Cutter [73] patent; is that right? A. Yes.

Q. And those machines that you saw were operable? A. They were operable.

Q. Will you refer to the Sussman patent, please? Refer to Fig. 2 of the patent. A. Yes, sir.

Q. I believe you testified that the bar 49 of that device does not enter the folding box; is that right? A. That is right.

227 Q. But the pins 51 on that bar do enter the folding box, don't they? A. They go through the slots 25.

Q. And pass into the interior of the box; is that right? A. That is right; they pass through it.

Q. Now, refer to the Cutter patent, please. Do you have it? A. Yes, sir.

Q. Is there any reason you can see why you could not replace the elevating screw 37 of that patent by a sprocket and chain? A. Not in the Cutter patent, you cannot.

Q. You mean it could be done or could not? A. It could not. [74]

Q. What would be the difficulty in trying to do it? A. Well, you have a mechanism which would not work at
228 right angles to the other part of the mechanism which is supposed to lift the box mechanism.

Q. Well, now, suppose you took the screw 37 out and replaced it with a chain and had that chain over the sprockets at the top and bottom of the screw. Wouldn't that chain serve to lift the folding mechanism? A. No. You would have to have a pinion to put the shaft at an angle.

Q. To put it at an angle to what? A. Well, you are pushing a gear which is in a horizontal plane. You are turning that gear. Now, you have a sprocket which necessarily has to be on a vertical plane in order to work in conjunction with the box.

229

Q. Well, I was assuming that you would put the sprockets in a vertical plane, of course. There would be no difficulty in that, would there? A. No, of course not. That is what we have.

Q. Couldn't you drive those sprockets by a dog of some sort mounted on a carriage with a pawl and ratchet mechanism? A. I can't hear.

Q. Suppose you have a chain in place of screw 27 and it passed over the sprocket at the top of the screw and another at the bottom of the screw and another sprocket to the chain [75] was attached at the folding mechanism. When you lifted that sprocket it would lift the folding mechanism? A. Yes. 230

Q. Would there be any difficulty in driving one of those sprockets by means of the movement of the carriage? A. I can't see how it can be done.

Q. Suppose you put a pawl and ratchet mechanism there to drive the sprockets; that could be done? A. That is what I say.

Q. That could be done in the Cutter device, couldn't it? A. No. As I pointed out before, you have to take the whole mechanism and make a new mechanism—in other words, throw away what they have and make something new. 231

Q. Suppose you gave that to a mechanic and told him that you wanted to put a pawl and ratchet mechanism there to move the sprocket every time the carriage came over. The mechanic could do it, couldn't he? A. Do it what with?

Q. With a pawl and ratchet mechanism and a dog mounted on the support. A. I don't see how it could be done.

Q. You know what a pawl and ratchet mechanism is, don't you? A. Yes. We use that in our mechanism.

Q. Suppose you had a pawl and ratchet mechanism that [76] was movable with the carriage and you had a dog that engaged the pawl every time the carriage passed it. Wouldn't that rotate the sprocket every time the carriage moved? A. It would.

Q. Any mechanic could make that sort of arrangement, could he? A. Well, that's the arrangement we had at the present time on our machine.

Q. I know it is. Couldn't any mechanic put that on the Cutter device if you told him to? A. If I told him to, possibly, yes.

Q. I mean if you just gave him the Cutter device and told him you wanted to have a pawl and ratchet mechanism 233 connected with a chain and sprocket to elevate it? A. You couldn't give that to any mechanic, no, sir.

By the Court:

Q. You could not what? A. You could not give that to any mechanic. That is what you asked me.

By Mr. Reynolds:

Q. What do you think his difficulty would be?

The Court: He means a skilled mechanic.

By Mr. Reynolds:

234 Q. I mean a skilled mechanic, of course, not a plumber. A. I can't say offhand what the difficult part of it is, [77] but I don't think that any man, by just giving him an idea, could just go ahead and make something up. It would have to be worked out.

The Court: Well, he must know that something could be done with the Cutter machine.

The Witness: Mr. Reynolds said if you take the screw from Cutter away and you put the chain from Schneider on and take the bar—in other words, take something of one patent away and something of the other and put the two together—

The Court: He is not talking about patents.

Mr. Reynolds: I have not said anything about Schneider.

The Court: He is not talking about patents at all.

The Witness: Well, you mentioned the Schneider mechanism and the Schneider chain.

By Mr. Reynolds:

Q. I mentioned chain and sprocket, but I did not say anything about the Schneider patent. Just forget the Schneider patent. The question is, if a mechanic were given the Cutter device and told to substitute a chain and sprocket for the elevating screw, whether he would not be able to do that easily. A. I can't see it. 236

Q. Of course, a chain and sprocket is a common mechanical expedient? A. That it is. [78]

Q. And a pawl and ratchet is a common expedient? A. Yes.

Q. And it is common to drive the pawl by means of a dog mounted on the relatively movable part? A. It is.

Q. But you feel that to incorporate those old expedients in the Cutter structure would be beyond the province of an ordinary skilled mechanic? A. That I would say, yes. 237

By the Court:

Q. Well, what would be the difficulty about it? Why couldn't he do it? You say you can't see it. What would be the difficulty?

> The Court: Well, I will withdraw that question.
>
> Mr. Reynolds: Well, that is all.

Re-direct Examination by Mr. Burkitt:

Q. Mr. Deichmann, there are a number of questions that I would like to ask. First, on this question of the

238 manner in which your mechanics operate: You are, I would say, the chief nabob for development for C. R. A.? A. That is right.

Q. When the work is handed out to the mechanics, who
do the machine work, do you just tell them to do so and
so, that [79] is, to take this thing and build up some-
thing for you, or do you actually sit down and tell them
about these gears here, those gears there, and so on? A.
That is right. You have to actually explain to the man
and stay with the man until he grasps the idea of it,
239 until he gets the know-how, so to speak, until you finally
can depend on him to do the job; but then, of course, it
is a production one again.

> The Court: Suppose you ask him if he could stand by and tell the mechanic how to do the thing that Mr. Reynolds asked about.
>
> Mr. Burkitt: That was my next question. I was coming to that.

By Mr. Burkitt:

Q. Do you actually tell him, "Make so and so," or do
you say, "Here is a drawing. Now, I want you to make
this gear and make that gear and make this ratchet,
240 this pinion and put that together according to this draw-
ing that I have made"? A. Yes. Of course, if I hand a
man drawings of an assembly, the men are able to work
from the drawing and make the parts up. You also
have assembly drawings which show you what parts go
where. That the man will be able to do without too much
instruction. They might come and ask certain questions.

Q. By that time, then, this particular mechanic has [80] worked out by you the parts that have to go into the machine, the dimensions, and everything else; isn't that correct? A. That is correct.

Q. You do not go out to him and say, "Well, I want to lift this box. Give me a mechanism for that purpose"? A. No. You couldn't do that.

By the Court:

Q. Could a mechanic that had all the knowledge that you have do the thing that Mr. Reynolds was asking about? A. I still would say that if something like that comes up that you have to develop something, that the usual procedure is to discuss the thing with your top men, you might say, with the draftsman—

Q. Suppose the mechanic had all of the knowledge that you and all of the top men have. Could he do the thing that Mr. Reynolds asked about? A. Well, his question was to take the— 242

The Court: Well, now, I will withdraw the question. He won't answer.

Mr. Burkitt: I can see your question, your Honor, but it is always that one so-called spark that comes at a conference, and I have seen it come myself. I may say this: That I have done a little investigating myself, when the spark would come to me, trying to find a way out. I have a little mechanical ingenuity myself, and I can [81] see that maybe I can do it and maybe he can't do it. 243

By Mr. Burkitt:

Q. I wanted to ask you, Mr. Deichmann, about your statements on the Sussman, Cutter and Isaacs machines. Did I gather that you had actually seen these machines of the patent? A. No, that I didn't see.

Q. And the defects that you found in these patents were not present in any of the machines you discussed then; is that so? A. No. The ones that I saw, if they were similar, did work, but they did not work as good as they should work. After all, that was the reason why we developed our machine.

Q. These machines to which you refer that you saw were not, then, substantially identical with these patent machines here, if they worked? A. I could not say that, no.

Q. Now, in the Sussman patent you referred to Fig. 2, and the point was made that the pins 51 enter that box. Now, you talk about the bar 49 or the representation 49 falling on top of the box. A. That is right.

Q. Will that always come into the same position in the width of that box for every position upwardly of the box? A. No, it would not.

245 Q. It could well be, could it not, that the bar would [82] be at the very edge of the box, the front edge of the box; isn't that so? A. That is right.

Q. In which case the pins would be where with relation to the opening in the box? A. They would be on the outside of the box.

Q. Is there anything here to indicate where those pins would be at any time in the different positions of the box? A. You mean in the drawing?

Q. In this Sussman patent. A. No; there is nothing there that shows it.

Q. Certainly the bar 49 with the assembled pins never
246 enters between the two blades 23-22 of that box? A. It does not.

Mr. Burkitt: I think that is all.

Re-cross Examination by Mr. Reynolds:

Q. Just one thing. Is it your final testimony now that you have not seen a machine that was identical with or substantially identical with the disclosure of any one of these reference patents? A. That is right.

Q. Did you ever try to build a machine in accordance with any of these patents? A. No. [83]

Q. Did you ever know of anyone who did try to do it? A. Yes—I wouldn't say with the patents as they are represented, but I know people that do make spreading machines.

Q. I am talking about trying to build a machine that is identical with these patents. A. No.

Mr. Reynolds: That is all.

(The witness left the stand.)

Mr. Burkitt: Your Honor, that is the end of our case.

Mr. Reynolds: I would like to offer as Defendant's Exhibit 1 a folder containing copies of the patents and decisions of the Board of Appeals and the statements of the Examiner. 248

The Court: It will be marked.

(Document referred to was received in evidence and marked Defendant's Exhibit 1.)

Mr. Reynolds: That is all.

The Court: My practice is to allow counsel to choose between oral presentation and a written argument, and I will follow that in this case.

Mr. Burkitt: I think Mr. Reynolds mentioned to me this morning that he thought we should do it by a written presentation. I think in a case of this nature it would be better for your Honor's purposes to do that. 249

The Court: It is more helpful to the Court. I will say [84] that.

Mr. Burkitt: Yes.

The Court: Then, how much time would you like to file your brief?

Mr. Burkitt: I have a probable trial that is on the calendar in Covington, Kentucky, for Monday. I do not know what Judge Swinford down there is going to do. He may take it on in two or three days or put it off for ten days. He is going to try it in the next ten days. So if I can get a little time to balance off that case, I would appreciate it.

250 The Court: Shall we say three weeks?

Mr. Burkitt: Three weeks.

Mr. Reynolds: I would like to have a week.

The Court: And you would like to have a week following that?

Mr. Reynolds: Yes.

(At 11:30 A. M. the hearing was concluded.)

Certificate of Official Reporter.

251 I certify that the foregoing is the official transcript of proceedings in the above-entitled matter.

N. J. CINCIOTTA,
Official Reporter. [85]

252

Plaintiffs' Exhibit 1. 253

Specification of Application, Serial No. 370,784.

This invention relates to a Sheet Material Spreading Machine.

In many shops, as, for instance, where fabric is to be cut for garment manufacture, fabric is arranged in a plurality of superimposed layers so that a plurality of duplicates may be cut at a single operation. For economy of fabric, each layer must be of minimum length, and of uniform length. It is an object of the invention to provide a machine for operating upon sheet material in whatever form it may be, and for spreading it into a plurality 254 of superimposed layers of identical extent, without substantial variation.

Fabric for this purpose may be disposed upon a carrier, movable transversely over a table upon which the layers are to be spread. The carrier is moved back and forth over the table, and automatically measures and spreads the fabric upon the table in layers, uniformly flat and of uniform extent. As the layers pile up, one upon the other, it is essential that no variation in length of the layers occur. It is an object of the invention to provide means for spreading fabric wherein control of the length of layers will be uniformly governed and determined 255 regardless of the height to which the superimposed layers may reach within the limits of the machine.

Both the layers first produced, and those produced intermediately, and those on the highest levels must be uniform in length and in the registry of their edges. It is an object of the invention to provide apparatus by which the spreading means is effective to substantially the same degree for the first layer spread upon the table as for each subsequent layer, to the topmost limit to which layers may be piled.

In order that material be spread flat upon the table, a device, used as a guide for the moving sheet of material, is lifted, step by step, controlled by the movement of the carriage, and the number of layers which already are superimposed. It is an object of the invention to provide mechanism effective as the spreading device is lifted to maintain the spreading device in the same effective position for each layer, and in substantially identically the same relation to the table, so that the arrangement and extent of each layer will be substantially the same in every case.

The matter of forming layers requires a back and forth motion for the spreading device. Necessarily, therefore, 257 in forming the several successive layers, the spreading device in each case must come to an end position from which it must retrace its movement. At the moment of retraction, a fold has been defined by the spreading device. As the spreading device begins to retrace its movement, it must be moved out of that fold, and must leave the fold as the end of the layer which has been spread. It is an object of the invention to provide means for cooperating with the spreading device to relieve the spreading device of the end fold as the device commences to retrace its movement.

Other objects of this invention will be set forth herein, 258 or will be apparent from the description and the drawings, in which is illustrated an embodiment of apparatus for carrying out the invention.

The invention, however, is not intended to be restricted to any particular construction, or to any particular arrangement of parts, or to any particular application of any such construction or any such arrangement of parts, or to any specific method of operation, or to any of the various details thereof, even where specifically shown and described herein, as the same may be modified in various particulars, or may be applied in many varied relations, without departing from the spirit and scope of the claimed invention, a practical construction embodying certain details of the invention being illustrated and described, but only for the purpose of complying with the requirements of the Statutes for disclosure of an operative embodiment, but without attempting to disclose all of the various forms and modifications in which the invention might be embodied.

On the drawings, in which the same reference characters refer to the same parts throughout, and in which is disclosed such practical construction:

Fig. 1 is an elevational view of apparatus embodying features of the invention, the table being broken away for convenience in illustration; 260

Fig. 2 is an end elevational view of the carriage of the apparatus shown in Fig. 1, shown to enlarged scale, the table being broken away, and a part of the frame being broken away in cross-section to illustrate details of the construction;

Fig 3 is a perspective view of a portion of the apparatus, looking beneath the platform and towards certain of the operating parts of the apparatus, to illustrate clearly the relationship of the different parts, the apparatus being broken away along the edges for convenience in illustration;

Fig. 4 is a plain view of a detail of lifting mechanism 261 for the spreading device, shown to enlarged scale;

Fig. 5 is an elevational view of the apparatus shown in Fig. 4;

Fig. 6 is an elevational view, to enlarged scale, of certain of the apparatus involved in the reversing of the spreading device;

Fig. 7 is a portion of the apparatus shown in Fig. 6, showing the extent of the apparatus of Fig. 6;

Fig. 8 is a plan view of a detail of the apparatus shown in Fig. 6;

262 Fig. 9 is a detail plan view of a portion of the apparatus cooperating with the spreading device, a portion of the frame being shown by dot-and-dash lines;

Fig. 10 is an elevational view of the apparatus shown in Fig. 9;

Fig. 11 is a detail of the spreading device, showing the method of cooperation of the clamping device therewith, the spreading device being broken away in section;

Fig. 12 is a plan view of a fabric clamping device for cooperation with the spreading device; 263

Fig. 13 is an end elevational view of the apparatus shown in Fig. 12, parts being broken away in section to clarify the relationship;

Fig. 14 is an elevational perspective view of a part of the appartus shown in Figs. 12 and 13, cooperating parts being shown in dot-and-dash lines;

Fig. 15 is a vertical cross-sectional view, substantially on the line 15-15 on Fig. 12, and to an enlarged scale; and

Fig. 16 is a detail view of the engaging member associated with the apparatus of Fig. 12, as seen from the line 16-16 of Fig. 12.

264 Machine 10, illustrated on the drawing, is shown as comprising a carriage 12 which may move over a table 14 upon which material 16 is to be spread into superimposed layers. Material 16 may be arranged upon platform 18 of the machine in any desired form, as, for instance, as a roll, or as layers of uniform or other lengths. Material 16 may take the form of a roll 20, carried upon a rod 22.

Carriage 12 may comprise side frames 24 and 26 having bearings for wheels 30 and 32. Wheels 30 may be flanged to be received upon a track 34 which may be affixed at the edge of table 14 in any desired manner. Wheels 32 may be disposed to ride upon the top surface of the table, and, for such purpose, may have a tread of rubber or similar material. The actual width of the table thereby becomes of no material importance as wheels 30 and track 34 cooperate sufficiently accurately to guide the carriage in its spreading movement.

Extending upwardly from frames 24 and 26 are arms 36. Between arms 36 transverse rods 38 extend and provide means over which material 16 may be drawn down to the spreading position, in the manner to be described. A pair of arms 40 may be mounted pivotally on arms 36; a pair of rods 42 may extend between arms 40. Rods 266
42 may be adjusted with relation to the feed of material 16 by turning arms 40, to control the tension exerted upon the sheet material as it is fed to spreading device 44.

For such cases where the material to be spread is in the original form of roll 20, arms 36 are provided with a pair of extensions 46 in which are upwardly opening sockets 48 and 50. In one socket 50 may rest rod 22 upon which roll 20 is mounted. Rod 22, at the other socket 48, is received in the bore of a bushing 52, as shown in Fig. 2. Bushing 52 has an annular groove 54 formed intermediately of its length. Groove 54 is of sufficient width to receive the thickness of extension 46 at socket 48 to re- 267
tain the bushing against movement relative to extension 46. By means of a set-screw 56, rod 22 is retained against movement through the bushing, and provides means for adjusting the roll along the axis of the bushing to determine the position of the layers as they are laid down upon the table, but without interference with the rotation of bushing and rod as the material is unrolled, as bushing, rod and cloth are free to rotate together in the sockets as the cloth is unrolled.

Spreading device 44 comprises member 58 of substantially U-shaped cross section. Members 58 may include a pair of end plates 60 in which stub shafts 62 and 64 may be fixed. Shafts 62 and 64 extend beyond plates 60 and through blocks 66 in which they are provided bearings.

End plates 60 are substantially L-shaped in formation. Secured to legs 68 of the ells are a pair of channels 70, the channels extending transversely of the width of the machine and being spaced from each other to provide an opening 72. Also extending between plates 60 is a bar 74, this bar being loosely mounted so as to be capable of rotation freely as material being spread passes over the bar.

269 As shown in Figs. 9 and 10, each block 66, by means of a groove 76, is affixed to a sprocket chain 78. The sprocket chain adjacent frame 24 is trained over sprockets 80 and 82. Groove 76 is formed in the block and is so shaped that a number of links of the chain may be slid laterally into the recesses and then, by reason of the guiding of block 66 by means of engagement of straps 86 affixed to the frame within slots 88 in the edges of the blocks, and the engagement of chain 78 over sprockets 80 and 82, serves to restrain the chain against movement lengthwise of the groove. In this manner, the chain is locked against movement relative to the block in the direction of movement of the chain over its sprockets.

270 Sprocket 80 is mounted at the inside face of frame 24 on a bar 90, which extends transversely between the frames and has another sprocket 92 associated therewith at the inside face of frame 26, thereby to drive the associated chain and block at the other side of the machine. Sprocket 82 and its opposed sprocket 94 are mounted on stub shafts 96 which find their bearings in the respective individual frames. Bar 90 extends outside frame 24 to receive a ratchet 98 and a hand wheel 100 associated therewith. A pawl 102 may be pivoted upon frame 24 to fall by gravity into contact with ratchet 98, in order to restrain blocks 66 and the spreading device carried thereby against falling.

A gear 104 is carried by the stub shaft 96 of sprocket 82 at the outside face of frame 24, gear 104 being in driving relationship with another gear 106 mounted upon a pin 108 fixed in the frame. Associated to rotate with gear 106 is a ratchet wheel 110. A pawl 112 is pivotally mounted on the frame to move into engagement with ratchet wheel 110. Pawl 112 is driven into engagement with ratchet wheel 110 by means of a spring 116 anchored on a pin fixed in the frame.

An arm 120 is pivoted on pin 108 and carries a pivoted pawl 122, urged downwardly towards ratchet wheel 110 272 by suitable means such as a spring. When arm 120 is moved about pin 108 as an axis, pawl 122 engages ratchet wheel 110 and turns it, and thereby rotates sprocket 82 to effect movement of chains 78 for lifting blocks 66 and device 44. Arm 120 is actuated for this purpose when a roller 126 carried by arm 120 engages an end stop 128 as carriage 12 reaches the limit of movement determined by stop 128.

A sector 130 may be carried on pin 108, and may have a slot 132 through which the end of a pin 133 extends to be engaged by a wing nut 134 to retain the sector against rotation. Sector 130 is retained in position on pin 108 by any suitable securing means such as nut 136, and is 273 capable of adjustment around pin 108 by releasing the engagement of wing nut 134 against sector 130 so that it may be turned on pin 108 as an axis. The adjustment of the sector moves a raised portion 138 of an edge 139 of an opening 141 into and out of cooperative relation to the engaging end of pawl 122. In accordance with the position of portion 138, pawl 122 will be made effective for greater or less rotation of sprocket 82. Pawl 112 serves to retain ratchet wheel 110 against back slippage while pawl 122 is not in driving relation to the ratchet wheel.

Stub shaft 142 extends through a suitable bearing on frame 24 to receive a sprocket 144. Over sprocket 144

274 is trained a belt or chain 146, which is also looped around
sprockets 148, 150 and 152. Sprocket 152 is mounted on
the extension of stub shaft 62 beyond the block 66 adjacent
frame 24, shaft 62 rotating in its bearing in the
block. The position of stub shaft 142 and its sprocket 144
remain substantially the same throughout operation.
Straddling sprocket 152, and provided bearings on stub
shaft 62, are yokes 154 and 156 which are formed as parts
of arms 158 and 160, respectively. Arms 158 and 160 extend
away from shaft 62, having yokes 162 and 164,
275 respectively, at their ends to receive pins 166 and 168.
Sprockets 148 and 150, respectively, are carried on pins
166 and 168, respectively, and are straddled by the respective
yokes 162 and 164. In like fashion, arms 170 and
172 have end yokes 174 and 176 through which extend
pins 166 and 168, and which straddle sprockets 148 and
150 and yokes 162 and 164 at the ends of arms 158 and 160.
Arms 170 and 172 extend to stub shaft 142 which is extended
through end yokes 178 and 180 of arms 170 and
172, respectively. The interlocked relationship of a set
of yokes is illustrated in Fig. 8, where yokes 178 and 180
receive stub shaft 142 and retain sprocket 144.

Arms 158, 160, 170, and 172, which may be substantially
276 identical in length, are effective to form a parallelogram,
to function as a pantograph, so that, no matter
what the angular disposition of these arms with relation
to each other, the length of chain belt 146, required to
make the complete circuit around these sprockets, is always
the same. Thus, if stub shaft 62 remain stationary
vertically, all sprockets 144, 148, 150, and 152 will retain
fixed axial positions. However, no matter what angular
displacement may be imparted to sprocket 144, the same
angular displacement will be imparted to a sprocket 152.
However, as sprocket 152 is lifted with block 66, as shown
by the dot-and-dash lines in Fig. 6, chain 146 will remain
stationary at sprocket 144, and thus, although sprocket

152 is revolving around sprocket 144, the effect of the pantograph will be that a neutralizing rotation will be imparted to shaft 62, so that spreading device 44 will not be rotated. By reason of this construction, no matter to what position spreading device 44 may be moved vertically, towards or away from table 14, legs 182, once properly set, will always be disposed substantially parallel to the table.

As the carriage moves back and forth over the table, the fabric moves freely through opening 72 and over bar 74 as it is threaded. Legs 182 will maintain a position away from the direction of movement until the carriage approaches the end of its travel, as, for instance, as shown in Fig. 6, if the direction of travel be from right to left. As the carriage comes to the limit of its movement, the end fold must be formed and extended away from the spreading device 44. Thus the spreading device 44 must be reversed to point legs 182 in the direction in which the carriage is moving. For this purpose, sprocket 184 is carried on stub shaft 142. A chain 186 is extended from sprocket 184 to a sprocket 188, fixed on a shaft 190 which extends transversely through a bearing formed in frame 24. 278

Shaft 190 extends through the frame, and, at the inside face of the frame, carries a crank 194 from which a pin 196 extends laterally into a cam slot 198 in a plate 200. Plate 200 is carried by a bar 202 which may be formed of two members 204 and 206, held together by blocks 208 which may serve as stops to limit movement of bar 202 by engagement with portions of frame 24. These members are positioned on opposite sides of a roller 210 which extends laterally from the frame so that the bar may slide over it. Member 204 extends beyond member 206 into a projection 212 to extend between rollers 214 further to guide the bar in its movement. The bar projects from the frame and is positioned so that, just as the carriage 279 is approaching the limits of its movement, it will engage end stop 128 or end stop 216. The engagement of the bar with end stop 216 is between projection 212 and a cushioned member 218 on one of cloth clamping members 220 hereinafter to be described.

As bar 202 engages stop 128, or as projection 212 engages cushioned member 218, and as the carriage advances, the bar is pushed along its bearings on the rollers, that is, the bar stops, and, as the carriage continues to move, the effect is that the bar moves on the rollers relatively to the frame. The result is that cam slot 198 moves
281 relatively to pin 196. The pin moves in the horizontal sector 222 of the cam slot, then is lifted by rising sector 224 of the cam slot, then passes to the complementary sector 226, and falls to the other horizontal sector 228, completing a 180° turn. When the bar moves in the opposite direction, the sequence is just reversed. In so doing, pin 196 effects rotation of crank 194, and thus effects rotation of sprocket 188, sprocket 184, and the associated chains, and thereby turns spreading device 44. Since sprockets 184 and 188 have the same number of effective teeth, the spreading device will be rotated 180°.

In order to assure that crank 194 complete its rotation
282 as cam slot 198 acts on pin 196, an arm 230 may be mounted on a pivot 232 on plate 200. Arm 230 has a slot 234 in which pin 196 is received. As arm 230 rotates, slot 234 and pin 196 cooperate throughout their rotational movement, and yet the pin is permitted to travel the entire limits of its movement in the horizontal sectors 222 and 228 of cam slot 198. Thus, when bar 202 is stopped by engagement with stop 128 or projection 212, and the carriage continues to move, slot 234 and pin 196 cooperate so that crank 194 is compelled to continue its rotation in the same direction until the movement of the carriage stops or the pin is within the horizontal portion of the slot on the side opposite the one from which it

started its movement. This is facilitated by a pair of pins 235 affixed to frame 24 in a predetermined relation to the path of movement of arm 230. The end 237 of arm 230 is formed with a camming surface, and, as bar 202 and its associated parts move relatively to frame 24, arm 230 rises to present the pointed end of the arm and its camming surface between pins 235. Continued movement of the carriage causes arm 230 to be thrown over, and thus to complete the rotation of crank 194. Thus, for instance, after pin 196 had been lifted by sector 224 to the peak of the slot, it would not be possible for crank 194 to fall back into sector 224, but it would have to pass 284 to sector 226 to complete a 180° turn.

In part 236 of the block 66 adjacent frame 24 are a pair of extensions 238 in which are fixed a pair of pins 240 and 242. Each of these pins provides a mounting for an arm 244 which has a projection 246 to engage extension 238 or a projection 248, for limiting rotation of the arm on its pin. The ends of arms 244, when the spreading device is in its lowermost position, will rest on the table proper, and for that purpose may have a roller 250. The spreading device is lifted in the manner previously described as additional layers of fabric are spread, and the roller will be lifted free of the table; however, arm 244 285 will function in the same manner regardless of the position to which the spreading device is lifted.

Arm 244 acts as a cam, its top surface 252 engaging, as the carriage advances towards a cloth clamping member 220, under roller 254 carried upon a transverse bar 256. Arm 244, so engaged, lifts transverse bar 256 together with its associated elements, roller 254 riding up on arm 244 and then onto a flat ledge 258 on the inner face of plate 60. This ledge is formed by a rib which, at the limits of rotation of device 44, is presented successively to the ends of arms 244. When the carriage now is advanced to its end position, roller 254 passes beyond and falls over the end edge of the ledge 258 so that bar 256 with its associated elements may also drop. At that time, the spreading device has been turned to present a leg 182 towards that bar 256, and has advanced, as shown in Fig. 11, so that the bar is within the cavity of U-shaped member 58.

Bar 256 is carried at the end of a pair of arms 260. Arms 260 pivot with a transverse rod 262 which is received in horizontal slots 264 formed for that purpose in frames 266, arms 260 being fixed to rod 262 in any suitable manner, as, for instance, by means of clevises. A rod 268, 287 fixed to both arms 260, is positioned intermediately of arms 260, and extends transversely between frames 266 and through arcuate slots 270 in the frames. On rod 262 is mounted a sleeve 272. The rod may rotate in the sleeve, but the sleeve is retained against lateral displacement by a collar 274 fixed on rod 262. Sleeve 272 is retained against rotation by means of a pin 276 extending into slot 264 from an arm 278 integral with sleeve 272, while rod 262 is permitted limited rotation. Sleeve 272, on another integral extension 280, has a pin pivot 282 for an arm 284 which extends forwardly to a lug 286 affixed to bar 256. This linkage of bar 256 with arm 284 and 288 sleeve 272, and the arrangement of arms 260 with the engagement of rod 262 in slot 264 and of rod 268 in the arcuate slots 270 are such that the bottom surface of bar 256 is maintained substantially at all times in a position substantially horizontal, that is, parallel, to the surface of table 14. The radius of arcuate slots 270, and the distances from rod 262 to rod 268, and the length of arms 260 determine vertical straight line movement for bar 258. On the other hand, the distance from the center of rod 262 to the center of pin pivot 282 is the same as the distance between centers of roller 254 at which arm 260 is pivoted and the center of the pivot at which arm 284 is attached to lug 286. The distance between centers of rod 262 and roller 254 is the same as the distance between pivots along arm 284. Thus a parallelogram is produced which will be effective to maintain bars 256 and 288 always in the same vertical relationship to each other. In one construction, arm 260 was 3 3/4 inches long. The radius of slot 270 was 6 7/8 inches, while its center was in a line parallel to the base of frame 266 and in an extension of the center-line of slot 264. Rod 268 was spaced 6 7/8 inches along arm 260.

Associated with bar 256 is another bar 288 which is the member which actually falls into contact with the 290 superposed layers of fabric. By means of pins 290, fixed in bar 288 and extending through openings 292 in bar 256, bars 256 and 288 are permitted limited movement with relation to each other. Pins 290 retain the bars substantially parallel to each other at all times, while the heads of the pins serve as stops to limit downward movement of bar 288. Also retained in bar 256 are a plurality of pins 294 which are capable of extension through openings 296 in bar 288. Pins 294 have pointed ends 297, and are intended to engage the fabric to prevent movement of the fabric under certain conditions. These pins are shouldered, as at 298, and have springs 300 engaged between the shoulder and the bottom of bar 256. Suitable 291 means, such as a nut 302 threaded onto the end of pin 294 extending beyond the top face of bar 256, may serve as a stop to limit movement of the pin under the action of spring 300.

As the carriage moves up to an end stop, and arm 244 engages end roller 254, bar 256 is lifted free of the layers of fabric disposed upon the table, and is lifted to a position determined by ledge 258, so that bar 288 is above the level of the top face of a leg 182. As the carriage advances, and roller 254 passes beyond ledge 258 and falls over the end of that portion, bar 288 falls upon that leg 182, and, of course, upon the fabric trained through

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the opening and over that channel leg, as shown in Fig. 11. The weight of bar 256 is added to the weight of bar 288 in holding the fabric upon the channel leg, but only the weight of bar 256 is effective in driving pins 294 into engagement with the fabric on the channel, as shown in Fig. 15, where the clamping position is shown by dot-and-dash lines. A plurality of slots 304 may be directed inwardly from the edges of the channel leg. Pins 294 are spaced so as to cooperate with slots 304 in producing positive engagement of the pins with the fabric to assure that the fabric retain its position relative to bar 288.

293 As the carriage is now retracted, pins 294 restrain the fabric against any movement relative to the table, and permit the channel leg to be removed from the fold thus formed. At the final stage, as the channel leg clears bar 256, the bars together will bring the fold immediately into contact with the other folds and retain the folds against retraction and provide the necessary tension as the new layer is being stretched.

Members 220 may be made up so that they may be
adjusted to different positions on the table. For this
purpose, each may include a plate 306 having lugs 308
carrying pins 310. Pins 310 provide bearings for lugs
294 312 on frames 266. In addition to the rods associated
with arms 260, a pair of rods 314 and 316 extend transversely over the table between frames 266 and are effective for lining up the frames in substantially vertical relationship, regardless of the contour of the table upon which plates 306 are positioned. A finger 318, which may be carried by a plate 306, may be provided with suitable manipulating means, so that the finger may be brought into engagement with a pin 322 on the main carriage frame so that a set of plates 306 of a member 220 may be moved along the table into a desired position in accordance with the length of a layer which is to be determined. The set of plates of one member 220 may, if

desired, be fixed to the table, while the set of plates of the movable member 220 may, after proper location, be clamped to the table by a removable clamp or similar device.

Carried on frame 24 may be a suitable counting device 328, the device having an extending arm for engagement with a cam carried upon bar 202. Thus, as bar 202 moves backward and forward in reversing the spreading device, the cam will be effective to manipulate the counting device and record the number of layers which had been disposed on the table.

296 Suitable handle means may be attached to frame 24 to facilitate the movement of the carriage back and forth in forming layers. The action of arms 244 is such that, even at the very lowest position, the fabric engaged by pins 294 cannot escape from the spreading device, and such that the travel of bar 288, after release of the folds from the spreading device, is very slight, while the pins are at all times in engagement with the fabric, so that substantially no distortion of the layer is effected as the fabric folds and is clamped into superimposed relation. In any case, pins 294 are assured substantially vertical movement, and thus in no way can distort or stretch the fabric out of the condition in which it was spread by the 297 spreading device. Thus, no tearing can result as the spreading device moves from the engaged relation to the clamped relation.

Many other changes could be effected in the particular apparatus designed, and in the methods of operation set forth, and in specific details thereof, without substantially departing from the invention defined in the claims, the specific description being merely of an operative embodiment capable of illustrating certain principles of the invention.

298

299

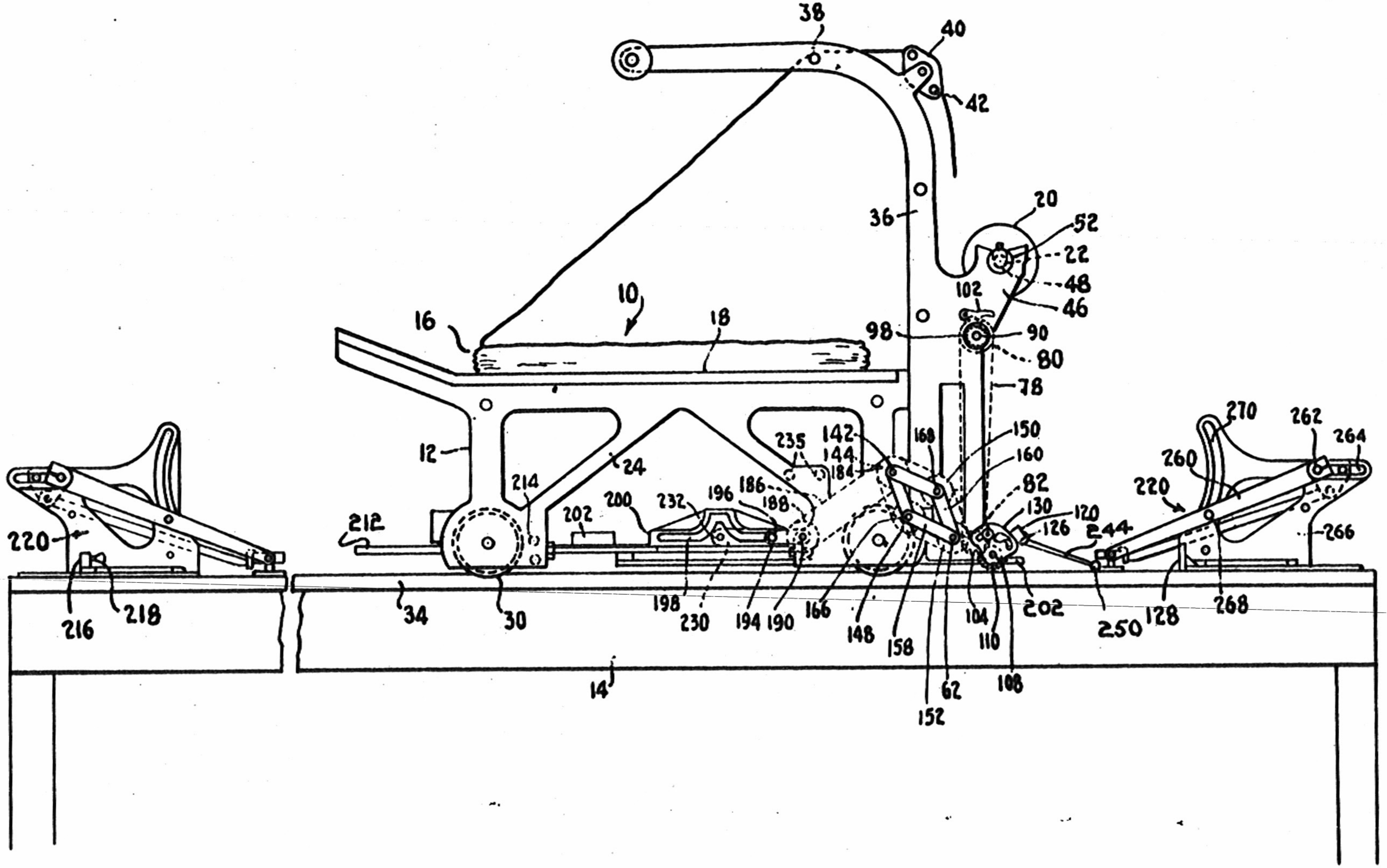
Plaintiffs' Exhibit 1

Drawings of application, Serial No. 370,784.

(See opposite page.) ☞

300

FIG. 1



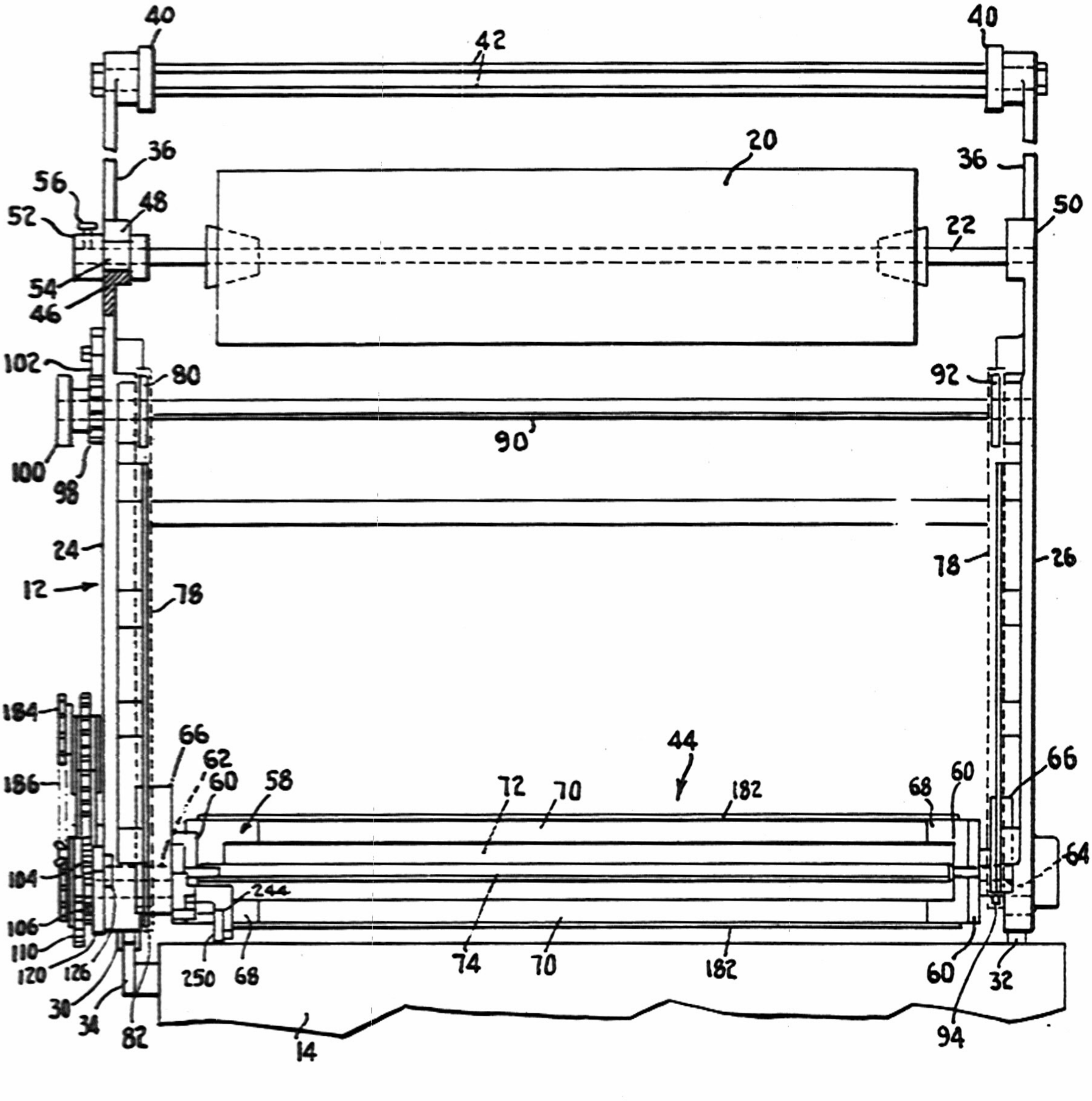


FIG. 2

F/G. 3

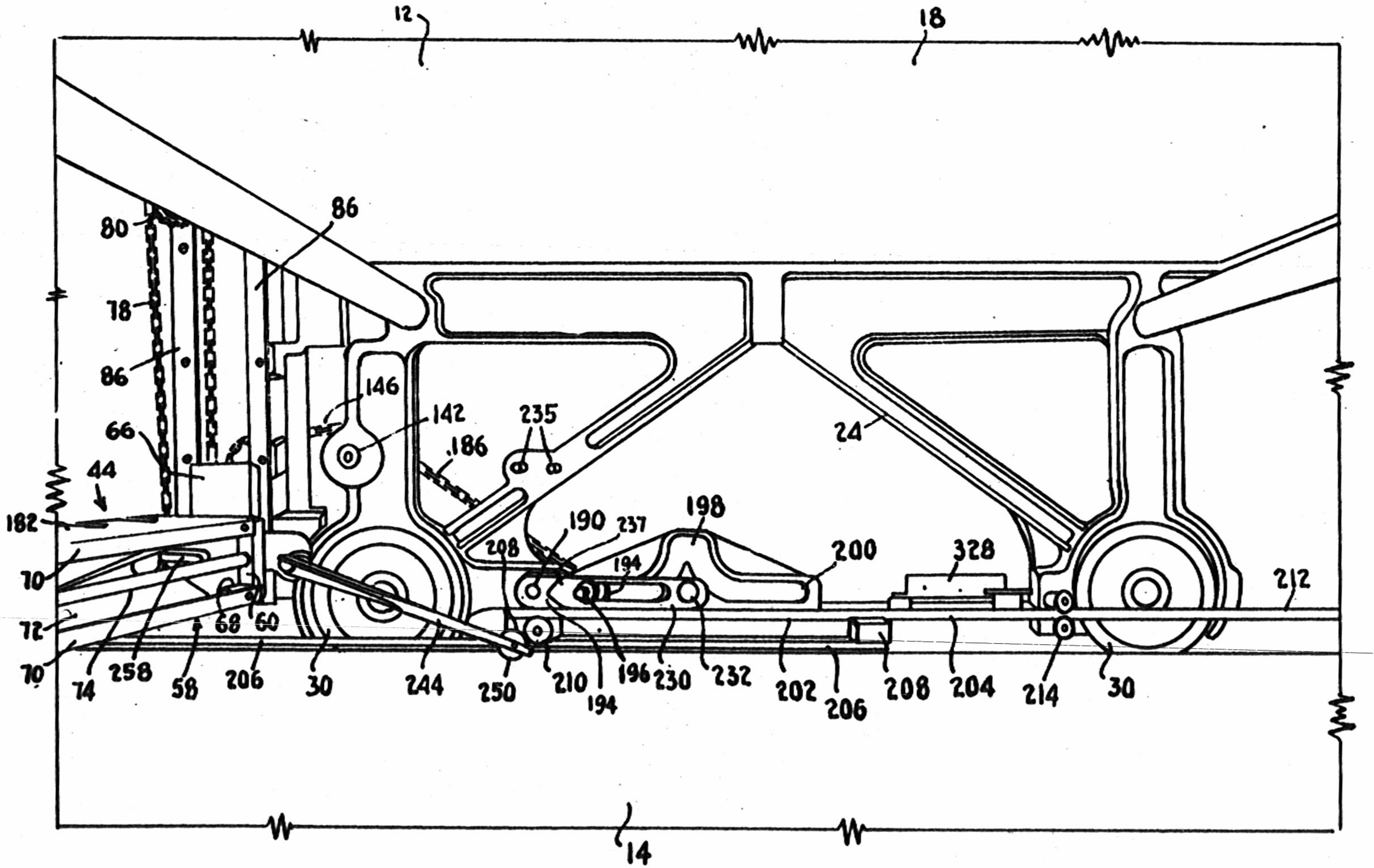


FIG. 4

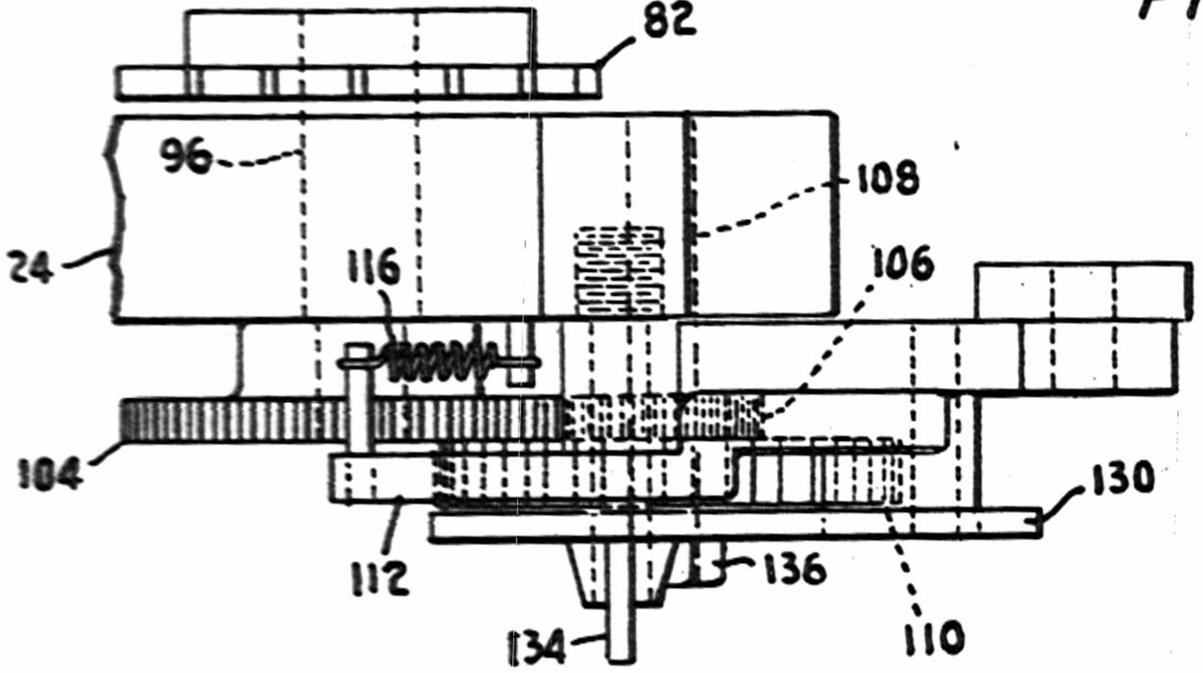
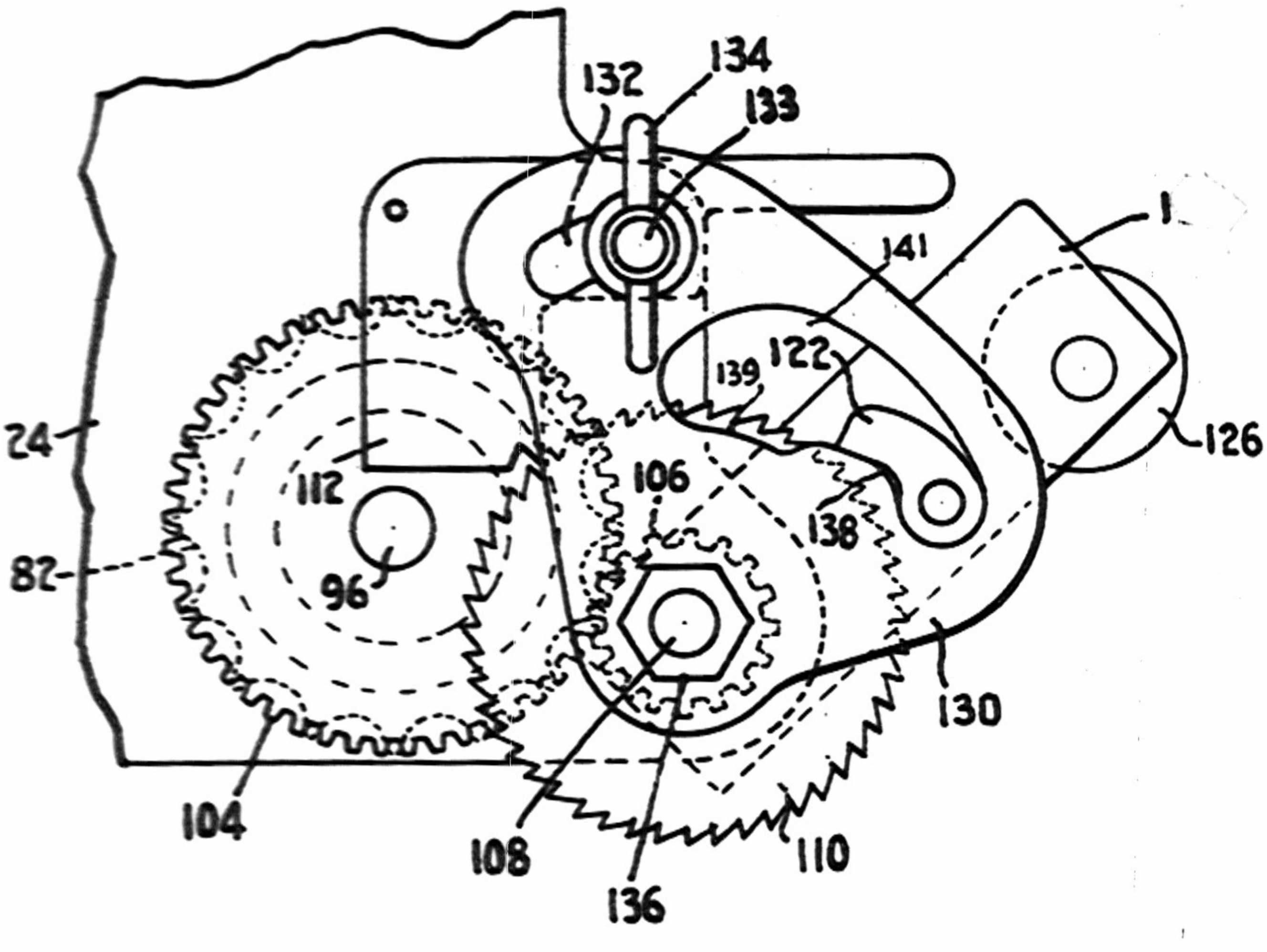


FIG. 5



AILABLE

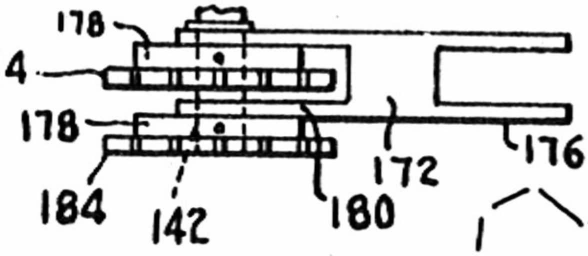


FIG. 8

FIG. 7

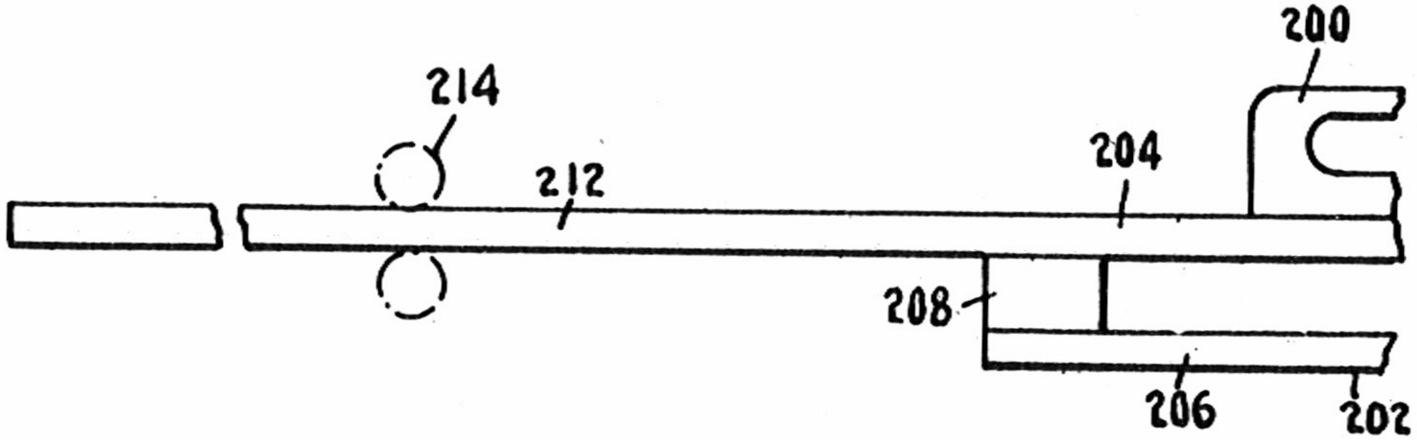
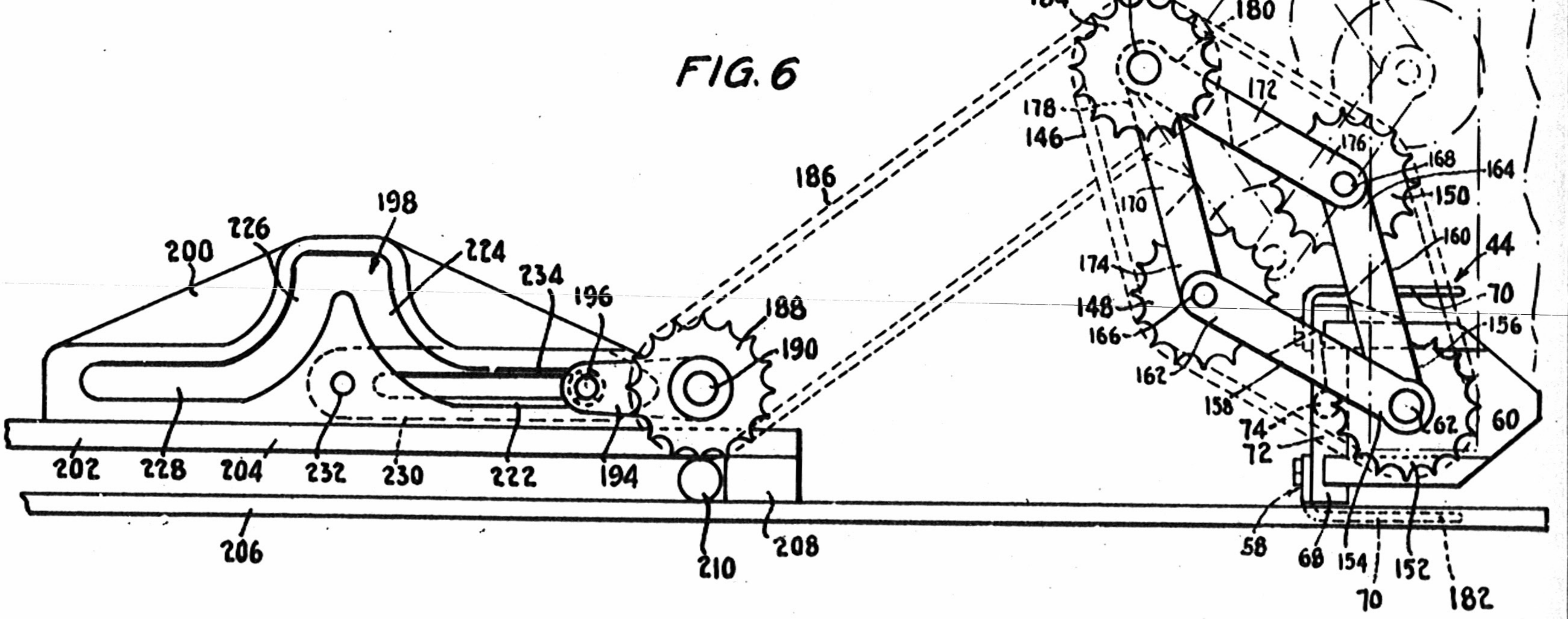


FIG. 6



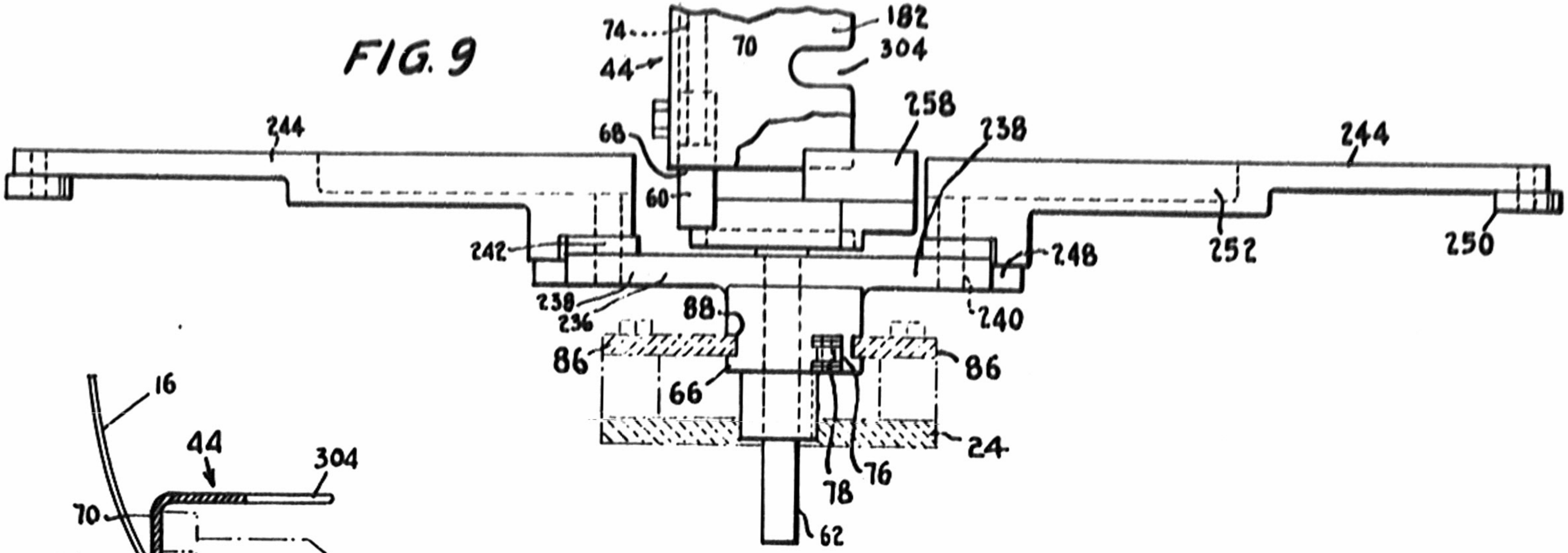


FIG. 9

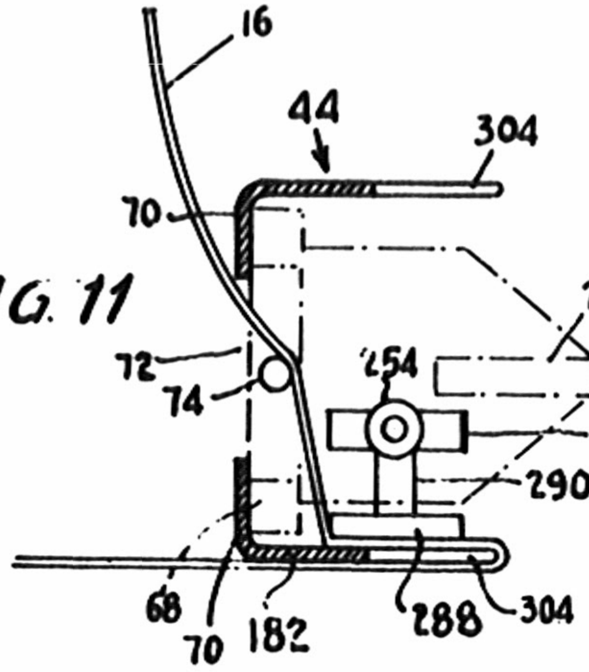


FIG. 11

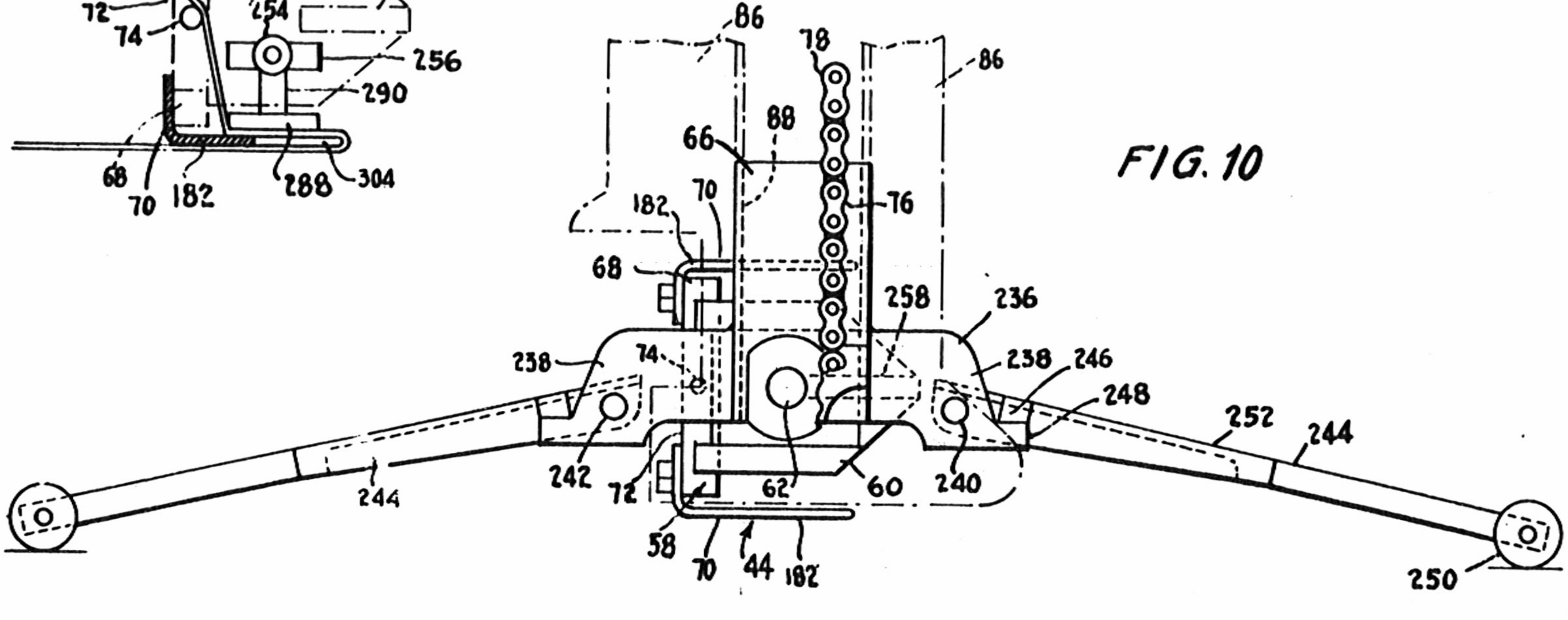


FIG. 10

FIG. 12

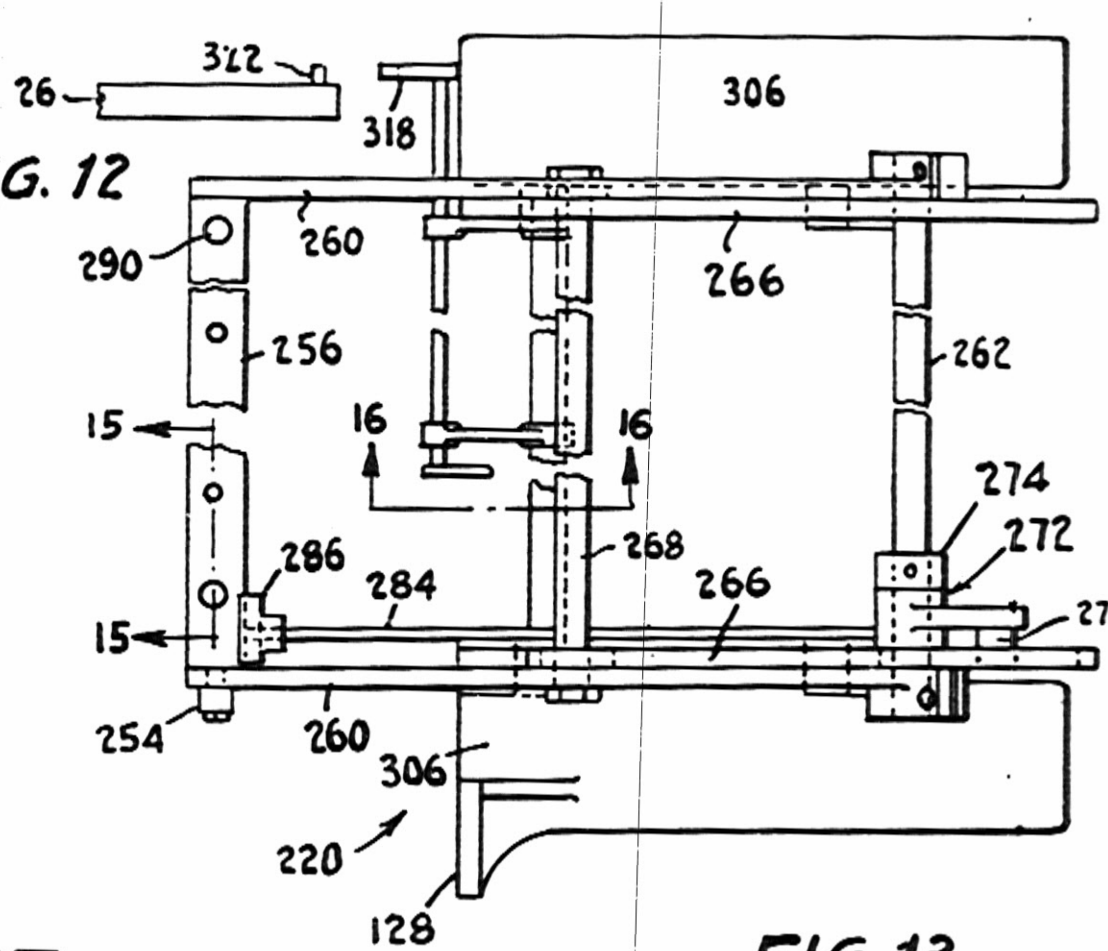


FIG. 16

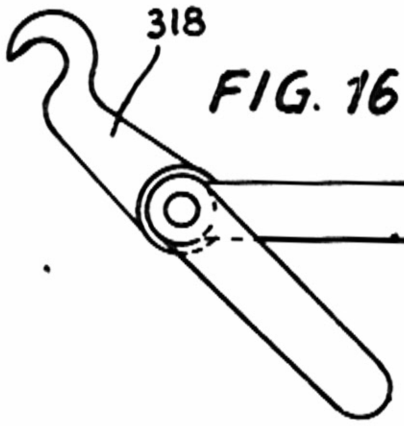


FIG. 15

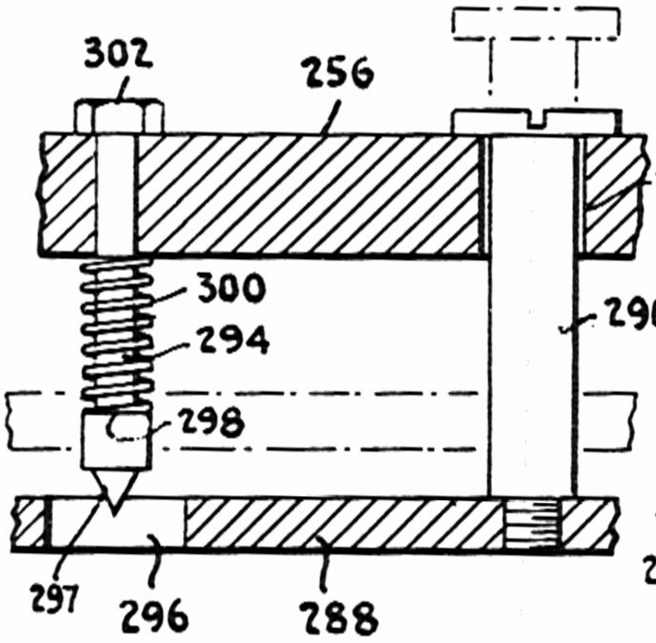


FIG. 13

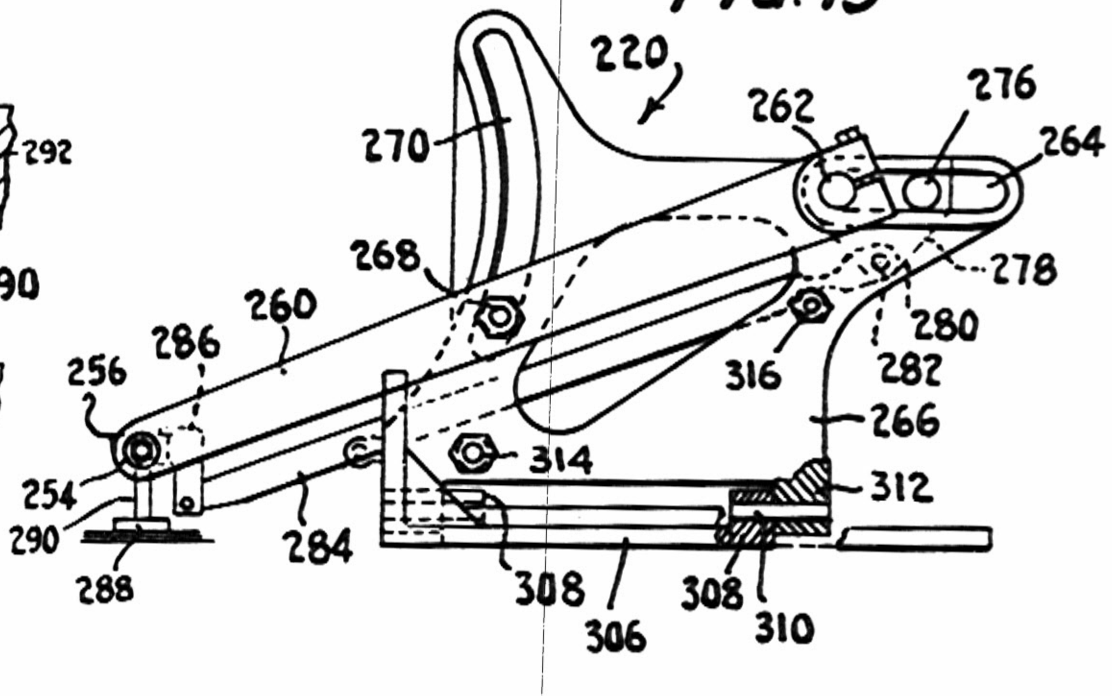
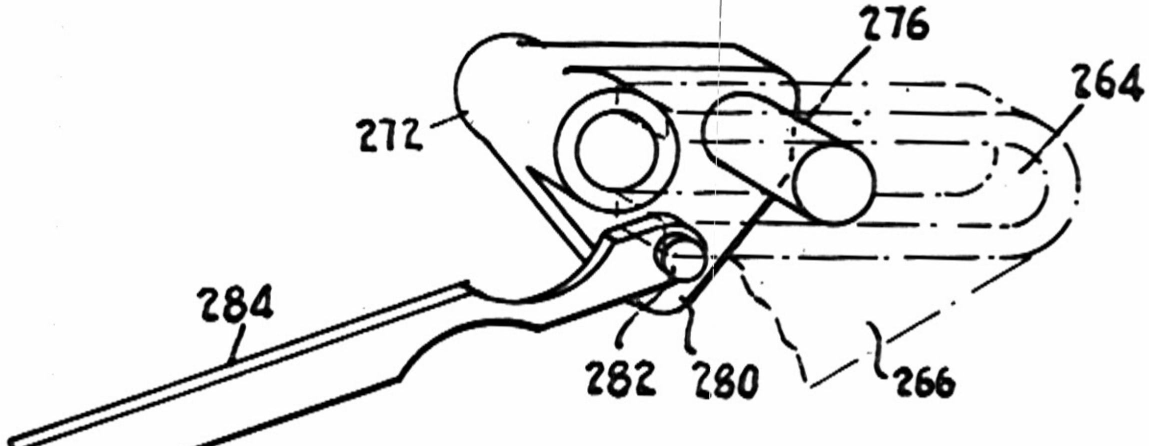


FIG. 14



304 *Plaintiffs' Exhibit 1*

Amendment, Filed February 7, 1945, Marked "Not Entered."

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. GILBERT, *Et Al.*,
Serial No. 370,784,
Filed December 19, 1940,
For SHEET MATERIAL SPREADING MACHINE

305 Division 17 Room 405

Hon. Commissioner of Patents,
Washington 25,
D. C.

Sir:

This amendment is being submitted after appeal, in the endeavor to place the application in condition for issue, without the necessity of argument of the appeal. However, if it appears to the Examiner that any of the rejected claims which are retained, or any of the claims which are now presented, are not acceptable, then it is 306 respectfully requested that this amendment be entered for the purposes of the appeal, that those claims which are considered to be patentable be indicated, and that the appeal be based upon the claims the Examiner may feel he cannot allow at this stage.

Claim 3, line 17, for "engaging," substitute—retaining—;

Line 18, strike out "individually effective";

Line 20, after "fold," insert—, each of the members being constructed to be effective upon the end fold independently of the effectiveness of the other members—.

For claims 20, 31, 32, 33, 34, 35, 37, 39, 41, 48, 49, 50, 51, 52, 53, 54 and 55, please substitute the following:

56. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, means for movement relative to the surface for guiding the sheet material to the surface, end-fold forming means for the guiding means, the end-fold forming means comprising means for directing a fold in the direction of movement of the guiding means, and a plurality of individually movable pressure-applying means for cooperating with the end-fold forming means to apply gripping pressure simultaneously to the fold at points spaced along the fold at the end of the layer. 308

57. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement relative to the surface for guiding the sheet material to the surface, end-fold forming means for the carriage, the end-fold forming means comprising means for directing a fold in the direction of movement of the carriage, and a plurality of individually actuated means for being brought into cooperation with the end-fold forming means to grip a fold distended by the end-fold forming means and to retain the fold in the distended form, and means for bringing the individually actuated gripping means 309 simultaneously into gripping and retaining position.

58. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement back and forth relative to the surface, the carriage having a single member for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means for lifting the gripping means free of

the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, said lifting means comprising means for guiding the gripping means into the member as the member approaches either of the carriage movement limits.

59. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position
311 upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and means for lifting the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, said lifting means having a fixed relation at all times to the end-fold forming means and comprising means for guiding the gripping means into the end-fold forming means at either of the carriage movement limits
312 and for maintaining the gripping means out of engagement with the end fold carried by the forming means until the carriage reaches a limit of the movement.

60. In a machine for laying down upon a surface successive superimposed layer of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, the guiding and forming means comprising a single U-shaped member, means for limiting movement of the carriage in both directions relative to

the surface, means for gripping a fold distended by the member to retain it in distended form, and means carried with and having a fixed relation at all times to the member for lifting the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, said lifting means comprising means for guiding the gripping means between the arms of the U at the carriage movement limit and for retaining the gripping means out of contact with the arms of the U until the carriage reaches a limit of its movement. 314

61. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, the guiding and forming means comprising a single U-shaped member, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means pivotally mounted substantially medially of the extent of the arms of the member, and movable at all times with the member, for engaging the gripping means at a limit of 315 movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said engaging and lifting means comprising means for guiding the gripping means between and free of the arms of the U at the carriage movement limit and for retaining the gripping means free of the arms of the U until the carriage reaches that limit of its movement.

62. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and a pair of 317 arms pivotally mounted upon and retained to extend from the fabric guiding means in the directions of movement of the carriage, the arms forming means for engaging the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said arms comprising means for guiding the gripping means into the end-fold forming means at the carriage movement limit, the fabric guiding means being reversible to form folds in either direction of carriage movement, the arms retaining a fixed relation to the fabric guiding means for each position of the fabric guiding means.

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63. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and a pair of arms pivotally mounted upon and retained to extend from the fabric guiding means in the directions of movement of the carriage, the arms forming means for engaging

the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said arms comprising means for guiding the gripping means into the end-fold forming means at the carriage movement limit, the fabric guiding means being reversible to form folds in either direction of carriage movement, and means for elevating the end-fold forming means, the arms being assembled with the end-fold forming means to remain in a constant operative relation to 320 the fabric guiding means for every position of the fabric guiding means.

Remarks

At the recent interview courteously accorded the Attorney for Applicants, claims 56 and 57, in their present exact terms, were discussed. These are allowed claims 1 and 2, but without the limit defining means. It is obvious that Applicants are entitled to claims not restricted by such limiting means. The Examiner agreed to allow these claims if presented by an amendment such as this.

321 Claim 3, as hereby proposed to amend, states that the members are individually effective. This is made so definite that the Examiner's previous objection, made at the recent conference at which considerable progress was made in an understanding between Examiner and Attorney, is completely obviated. The language no longer may apply to a bar to which a number of pins are fixed without benefit of movement of the pins with relation to that bar. It never was intended to define structure in which the pins are merely individually secured in position, and individually contact the fabric, unless those pins were capable of accommodating themselves to irregularities of the cloth and of the bar itself. In other words, the

322 cloth, laid out upon the surface, responds to irregularities in that surface. The bar itself may become bowed, or it may hang improperly in its supports. With a fixed bar such as shown by Sussman, the result would be that many of the pins would be out of engagement with the cloth on the surface. That is not true in the structure now set forth by claim 3, where the members are required to be individually effective, and each to be effective independently of the effectiveness of the other members.

Claims 36, 38, 40 and 42 have been retained without amendment. It is not clear why division should have been 323 required, and it is believed that these claims are properly patentable in this application. The grounds for support of this opposition to division have previously been set forth. There is a serious question whether a separate patent containing these claims would be acceptable to any court. Under these circumstances, it is respectfully submitted that, unless the claims are considered unpatentable, they should be allowed in this application, and the requirement for division should not be pressed.

Claim 58, which is claim 48, amended, now requires a *single member* for guiding the fabric into position upon the surface. The carriage itself is required to move both 324 back and forth relative to the surface. The lifting means is required to lift that single member free of the surface *as* the carriage approaches the movement limit. The lifting means then guides the gripping means *into* that single member and can do this at either of the limits. These amendments are made in light of the Examiner's interpretation, that Isaacs, 1,338,570, has means which guide the gripping means into the end-fold forming means.

Isaacs, of course, does not have means for keeping the gripping means out of contact with the fabric during the final step of pushing the fold to the limit. In other words, the fold, during that stage, is being pushed between the folded fabric on the table, and the gripping member which has some spring or brush teeth. It is easy to understand that these teeth could damage fabric as the gripping member rolls into the fold forming member.

Applicants' structure is devoid of any such possiblity. No clamping action occurs until the very end position of the fold forming member is reached. Thus, the claim differentiates completely from the references, both in structure and in patentable result.

Claim 59, based upon claim 49, has been amended to require that the guiding means have a fixed relation to the end-fold forming means, so that the gripping means are guided *into* the end-fold forming means at either limit of movement of the carriage. 326

As a matter of fact, Isaacs, 819,548, relied upon for this particular claim and like claims, has no limiting means at all. Just how his apparatus is controlled, as far as limits are concerned, is not apparent. Certainly this reference has nothing to do with gripping means which *enters* a fold forming means at the limit of movement of the carriage, whether the carriage be moved in one direction or the other. Certainly there is no means, in Isaacs, for lifting the gripping means free of the surface and superimposed layers, and so to maintain that gripping means until the carriage reaches the limit of movement, 327 wherein such lifting means maintains a constant relation to the end-fold forming means at all times. This, of course, refers to the arms which engage the gripping means and lift it free of the fabric, and then guide the gripping means into the end-fold forming means, and, at the limit of movement, permit it to fall upon the fold held by the end-fold forming means. There is no such apparatus in any reference.

Claim 60, based upon claim 50, is more specific than both claims 48 and 49. It has the specific structure of the U-shaped member and the manner in which the gripping means is guided free of the fabric *and* the arms of the U at the carriage movement limit.

Claim 61, based upon former claim 51, specifically sets forth the pivotal mounting for the means which guides the gripping means into the U-shaped member. The means in this case is required to engage the gripping means at a limit of movement, and to lift the gripping means free of the surface, the fabric thereon, and the arms of the U. Note that the guiding means are movable at all times with the U-shaped member, something which SUSSMAN never contemplated.

The Examiner takes the position that SUSSMAN shows
329 the guiding of the pins into the slots in the bar. For that reason, he has held that claims such as claims 52 and 53 are met in terms by the provision that the gripping means, that is, the pins, would be guided into the end-fold forming means. Merely upon this construction of the claim language, claims 52 and 53 have been cancelled.

Claim 62, based upon claim 54, sets up the specific construction involved in the arms which are pivotally mounted upon the fabric guiding means, and extend in the direction of movement of the carriage. No reference of record has any such specific structure. SUSSMAN's arms are above the fabric guiding means; they are not pivotally mounted upon the fabric guiding means.

330 Claim 63, based upon former claim 55, is more specific than claim 62 in the requirement for means for elevating the end-fold forming means while the arms remain in a constant operative relation to the end-fold forming means. This is in addition to the requirement that the arms retain a fixed relation to the fabric guiding means, whether it be disposed to form a fold in one direction or the other.

These claims, namely, claims 58 to 63, inclusive, bearing upon the specific means for bringing the gripping means within the extent of the fold forming means or box, and yet keeping the gripping means out of contact with the fabric until the fold forming means has reached

331 the absolute limit of movement, are for an invention not contemplated or disclosed by any reference of record. The benefits derived from such apparatus are obvious. Therefore, the patentability of these claims is immediately apparent.

It is believed that the application now complies in all details with the Examiner's position on questions of patentability. It is believed that this amendment obviates the argument of the case before the Board of Appeals, and that the case may now be passed for issue.

The entry of this amendment, and such action, is, therefore, respectfully prayed. 332

Very respectfully,

HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street, New York 18, N. Y. February 6, 1945. a-b7

333

Notice of Appeal.

In the

UNITED STATES PATENT OFFICE.

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940
For Sheet Material Spreading Machine

335 Division 17 Room 405

Hon. Commissioner of Patents,
Washington 25, D. C.

Sir:

The applicants, by their attorney, Henry L. Burkitt, appeals from the final rejection of the above-entitled application, dated June 13, 1944.

The grounds for the appeal are as follows:

1. That the Examiner erred in finally rejecting claims 35 to 42 for misjoinder.

336 2. That the Examiner erred in finally rejecting claims 31 to 42 for misjoinder.

3. That the Examiner erred in finally rejecting claim 3 as not patentable over Sussman, 1,257,421.

4. That the Examiner erred in holding that each crossbar 48, 49, in Sussman carries a plurality of spaced pins, each engageable in an opening 24, 25 of folder bar 22 so that it has pins 50, 51, which are individually effective for retaining at least the first laid end folds stationary relative to the table and that therefore such reference anticipates claim 3.

5. That the Examiner erred in finally rejecting claim 20 as being fully met by Sussman, 1,257,421.

6. That the Examiner erred in finally rejecting claims 48, 52, 53, 54 and 55 as readable upon Sussman, 1,257,421.

7. That the Examiner erred in finally rejecting claims 48, 49, 52, and 53 as readable upon Isaacs, *et al.*, 819,548.

8. That the Examiner erred in holding that the pivotal supporting means 46 of Sussman control the path of movement of his gripping means 50 and therefore constitute means for guiding the gripping means into the end fold forming means.

9. That the Examiner erred in holding that the curved ends of members 36 in Isaacs, 819,548, guide the gripping means 47 into the end folder 26. 338

10. That the Examiner erred in finally rejecting claims 49, 50 and 51 upon the combination of Isaacs, 1,338,570, in view of Isaacs, *et al.*, 819,548.

11. That the Examiner erred in finally rejecting claims 49, 50 and 51 on the combination of Isaacs, 1,338,570 and Isaacs, *et al.*, 819,548 without first rejecting the claims on such combination of references.

12. That the Examiner erred in holding that plates 21, 23, of the end folder of Isaacs function to guide the gripping means into the end folder, and that it is of no patentable moment whether the guiding function is performed by portions of the end folder structure or by guiding means in addition to the end folder structure. 339

13. That the Examiner erred in holding that it would not involve invention to provide Isaacs, 1,338,570, with means for limiting the movement of his guard in view of Isaacs, *et al.*, 819,548.

The fee of $15.00 is transmitted herewith.

Very respectfully submitted,

HENRY L. BURKITT
Attorney for Applicants

December 12, 1944

340 *Plaintiffs' Exhibit 1*

Examiner's Statement to Board of Appeals. Paper No. 26, Dated February 10, 1945.

Div 17
Room 405

Paper No. 26
AHG:lc

DEPARTMENT OF COMMERCE
UNITED STATES PATENT OFFICE
RICHMOND, VIRGINIA

341

In re application of
Herman W. Gilbert, *et al*
Serial No. 370,784
Filed: Dec. 19, 1940
For: Sheet Material Spreading
Machine

Before The Board of Appeals

Examiner's Statement.

This is an appeal from the final rejection of claims 3, 342 20, 31 to 42 inclusive and 48 to 55 inclusive (claims 1, 2, 4 to 19 inclusive; 21 to 30 inclusive; and 43 to 47 inclusive have been allowed). In view of the appeal the proposed amendment of November 25, 1944 (Paper #22) which was considered in making the Advisory Action of December 8, 1944 (Paper #23), has been entered in the case.

The appealed claims are as follows:

> 3. Apparatus for disposing sheet material in a plurality of successively superimposed layers of substantially identical extent, which includes a carriage for movement over a surface upon which the layers are to be disposed, limits for the move-

ment of the carriage over the surface, means on the carriage for distending the sheet material to define end folds in the material, means disposed at the limits of travel of the carriage for receiving and retaining the end folds, the carriage and the distending means cooperating to distend the end folds into cooperation with the receiving and retaining means, means carried by the carriage for positioning the retaining means to receive the distending means in fold-inserting relation between the surface and the retaining means when the distending means approaches a limit, and means to release the retaining means into engagement with the end fold on the distending means when the carriage reaches the limit, the retaining means including a plurality of individually effective members for retaining the end fold stationary relatively to the surface while the distending means is retracted from the retained fold. 344

20. In the art of forming sheet material upon a surface into a plurality of superimposed layers which comprises the steps of anchoring the sheet material upon the surface at one limit of extent of the layers, drawing the material towards the other limit by a fold-forming member, clamping the material to the surface to fix the extent of the layer by engaging the material upon the fold-forming member at the other limit and through the fold-forming member against the surface, and withdrawing the fold-forming member from the fold while maintaining the fold engaged against the surface. 345

31. In apparatus for unrolling sheet material from a roll, a support for the roll, the support including a pair of uprights, both uprights including means for extension of a rod therethrough to re-

tain the rod for rotation, one of said means including an arm having an upwardly opening recess, and a sleeve, the sleeve having a groove formed therein, the groove being of such dimensions that the arm will fit therein while permitting rotational movement of the sleeve in the recess, the sleeve having a bore for receiving the rod, the rod providing means for carrying the sheet material in the form of a roll.

347 32. In apparatus for unrolling sheet material from the form of a roll wound upon a rod, a support for the roll, the support including a pair of uprights, both uprights providing bearings to support the rod for rotation and for axial movement, one of the uprights including an arm having an upwardly opening recess, and a sleeve for one of the bearings, the sleeve having a groove formed therein so that the sleeve may be seated in the recess with the arm seated in the groove, the sleeve then being capable of rotational movement in the recess, the sleeve having a bore for receiving the rod.

348 33. In apparatus for unrolling sheet material from the form of a roll wound upon a rod, a support for the roll, the support including a pair of uprights, both uprights providing bearings to support the rod for rotation and for axial movement, one of the uprights including an arm having an upwardly opening recess, and a sleeve for one of the bearings, the sleeve being seated in the recess to be free for rotational movement in the recess while being restrained against longitudinal movement, the sleeve having a bore for receiving the rod.

34. In apparatus for unrolling sheet material from the form of a roll wound upon a rod, a support for the roll, the support including a pair of

uprights, both uprights providing bearings to support the rod for rotation and for axial movement, one of the uprights including an arm having an upwardly opening recess, a sleeve for one of the bearings, the sleeve being seated in the recess to be free for rotational movement in the recess while being restrained against longitudinal movement, the sleeve having a bore for receiving the rod, and means for fixing the sleeve and the rod against relative movement.

35. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for retaining one of the rotatable members against rotation to locate the end-fold forming means. 350 351

36. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting and lowering means including a band anchored to the end-fold forming

352 means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for imparting step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

37. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and 353 end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for retaining one of the sprockets against rotation to locate the end-fold forming means.

38. In a machine for laying down upon a surface successive superimposed layers of sheet material 354 of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting and lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for imparting step-by-step rotation to one of the sprockets to move the end-fold forming means vertically.

39. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; 356 the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for retaining one of the rotatable members against rotation to locate the end-fold forming means.

40. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface 357 for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the

358 band being trained around the vertically spaced members, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

41. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface,
359 means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for retaining one of the
360 sprockets against rotation to locate the end-fold forming means.

42. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold

in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the sprockets to move the end-fold forming means vertically. 362

48. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and means for guiding the gripping means into the end-fold forming means at the carriage movement limit. 363

49. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and means carried with the end-fold forming means for guiding the gripping means into the end-fold forming means at the carriage movement limit and for

maintaining the gripping means out of engagement with the end-fold carried by the forming means until the carriage reaches the limit of its movement.

50. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, the guiding and forming means
365 including a U-shaped member, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means carried with the member for guiding the gripping means between the arms of the U at the carriage movement limit but retaining the gripping means out of contact with the arms of the U until the carriage reaches the limit of its movement.

51. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface,
366 the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, the guiding and forming means including a U-shaped member, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means pivotally mounted substantially medially of the extent of the arms of the member for guiding the gripping means between the arms of the U at the carriage movement limit.

52. In a machine for laying down upon a surface successive superimposed layers of sheet material,

a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for elevating the end-fold forming means in accordance with increase of finished layers of 368 material and maintaining the means for guiding the gripping means in operative relation to the end-fold forming means.

53. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for 369 guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for elevating the end-fold forming means while the means for guiding the gripping means remains constantly in operative relation to the end-fold forming means.

54. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement

of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, and means for reversing the direction of the fabric guiding means when the carriage reaches the carriage movement limit while the guiding means for the gripping means remains effective for each position of the fabric guiding means.

371 55. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, means for guiding the gripping means into the end-fold forming means at the carriage movement limit, means for elevating the end-fold forming means while the means for guiding the gripping means remains 372 constantly in operative relation to the end-fold forming means, and means for reversing the direction of the fabric guiding means when the carriage reaches the carriage movement limit while the guiding means for the gripping means remains effective for each position of the fabric guiding means.

The alleged invention relates to an apparatus for and method of laying fabric material in strip or web form upon a support and forming it into a zig-zag folded pile comprising a plurality of superimposed layers of uniform length. The resulting pile of fabric is subsequently cut by a cutting die of desired configuration to produce a plurality of identically shaped pieces adapted to be made into garments.

The apparatus comprises a table or surface 14 upon which the fabric 16 is adapted to be layed in the form of a zig-zag folded pile by a carriage 12 arranged for movement back and forth along the table. The carriage is provided with laterally spaced arms 46 provided with U-shaped recesses or sockets 48, 50 for supporting an arbor 22 upon which the supply roll of fabric to be layed and folded is mounted. One end of the arbor 22 (see fig. 2) rests in socket 50 and the opposite end thereof 374
carries a hollow bushing 52 provided with an annular groove 54. The grooved portion of the sleeve rests in socket 48 of arm 46 and retains the bushing against movement relative to that arm. Bushing 52 is provided with a set screw 56 for normally retaining the arbor 52 against movement through the bushing. By backing-off the set screw 56 the arbor may be axially shifted relative to the bushing to laterally position the supply roll with respect to the carriage 22 and the table 14. The carriage 12 is further provided with a device 44 of substantially U-shaped cross-section (see figs. 10, 11) for laying the fabric upon the table and for transversely folding it. The device 44 is mounted for oscillation in bearing 375
blocks 66 arranged for vertical movement in guides provided at the opposite sides of the carriage. Each block 66 is connected to an endless chain 78 provided at opposite sides of the carriage and entrained over suitable sprockets. The chains may be manually moved by a handwheel 100 provided at the end of a sprocket chain drive shaft 90 (see fig. 2). A ratchet wheel 98 is fixed to shaft 90 and is engaged by a pawl 102 mounted for pivotal movement on the carriage to prevent the blocks 66 and folding device 44 from gravitating downwardly. The sprocket chains are normally intermittently driven to vertically raise the blocks 66 and associated fabric layer folder 44

as the height of the pile of folded fabric on the table 14 increases by a pawl and ratchet mechanism 122, 110 (see figs. 4 and 5) associated with the lower sprocket 82 around which the left-hand chain 78 (shown in fig. 2) is entrained. As the carriage 12 reaches the right-hand end of the table 14 (viewing fig. 1) roller 126 supported on pivotal lever 120 which carries pawl 122 of said pawl and ratchet mechanism engages a fixed abutment 128 thus causing the pawl to rotate ratchet wheel 100, which in turn, moves the chains 78 and vertically raises the folder 44 associated therewith. In the use of the apparatus 377 carriage 12 is manually moved to, say, the right-hand end of table 14 and the leading end of fabric from roll 20 is threaded through an opening 72 provided in the U-shaped fabric laying and folding device 44 and over a freely rotatable bar 74 journaled in the device; the leading end of the fabric is clamped against leg 182 of device 44 by a clamping device 288 swingably arranged in a frame 266 at the end of the table. As the carriage 12 approaches the right-hand end of the table a roller 254 associated with the clamping device engages an arm 244 associated with folder 44 rides thereover and onto a rib 258 provided between the legs 182 of folder 44 thus caus-
378 ing the clamping device to be swung upwardly; finally the roller 254 drops-off of the inner edge of the rib permitting the clamping device to clamp the fabric against leg 182 of the folder. The clamping device 288 is provided with a series of pins 297 which project through slots 304 provided in the legs 182 of folder 44 and impale the leading edge of the fabric to restrain it against movement relative to table 14 when the carriage 12 and folding device 44 are advanced toward the left-hand end of the table. As the carriage moves toward the left-hand-end of the table fabric is pulled from the supply roll 20 and laid upon the table 14; as it approaches the left-hand-end of the table the U-shaped folder 44

is oscillated clockwise through 180° by a shiftable cam 198 and associated mechanism (which it is not necessary to describe since it is not specifically claimed in the appealed claims) to bring the legs 182 of folder from a trailing to a leading position and cause the fabric to become folded about the edge of lower leg 182. A clamping device identical to that heretofore described is located at the left-hand end of the table for impaling the fold of fabric on leg 182 and retaining it against movement relative to table 14 when the carriage is moved toward the right-hand end of the table. This clamping device is raised and guided onto rib 258 in the folder 380 44 by an arm 244, similar to that heretofore described, provided at the left-hand side of the folder (see fig. 10). The carriage is moved back and forth along the table thus producing transverse folds in the fabric and causing the folds to be clamped against movement relatively to the table until a pile of fabric of desired height has been laid upon the table. Upon each complete reciprocation of the carriage the folder 44 and arms 244 associated therewith are elevated by the claims 78 through the pawl and ratchet mechanism 122, 110 heretofore described.

The following references are relied upon: 381

Isaacs, *et al.*	819,548	May	1, 1906	270-31
Sussman, *et al.*	1,257,421	Feb.	26, 1918	" "
Isaacs	1,338,570	Apr.	27, 1920	" "
Latham	1,793,180	Feb.	17, 1931	242-68
Gargolinski	1,803,180	Apr.	28, 1931	" "

Isaacs, *et al.*, 819,548 relates to a fabric laying and folding mechanism and comprises table 1; carriage 2 movable back and forth along the table; fabric laying and folding devices 26, 27 on the carriage for laying fabric *z* derived from support 5 upon the table and producing folds in it; and clamping devices 38, 39 located at opposite ends of the table for clamping the folded portions of the fabric.

Sussman *et al.* 1,257,421 also relates to a fabric laying and folding mechanism and comprises table 13; carriage 11 movable back and forth along the table; fabric laying and folding device 22, 23 supported by the carriage for laying fabric 15 derived from platform 14 upon the table and producing folds therein; and clamping devices 50, 51 located at opposite ends of the table for clamping the folded portions of the fabric.

383 Isaacs 1,338,570 also relates to a fabric laying and folding mechanism and comprises a table 12; carriage 9 movable back and forth along the table; fabric laying and folding device 22, 23 supported by the carriage for laying fabric 20 derived from a platform upon the carriage on the table; and clamping devices 17 located at the opposite ends of the table for clamping the folded portions of the fabric.

The Latham and Gargolinski patents relate to mechanisms for supporting rolls of cloth.

Claims 31 to 42 inclusive stand finally rejected on the ground of misjoinder of inventions. Claims 31 to 34 inclusive, which were presented by Paper No. 6 during
384 prosecution of the application are directed to applicant's arbor 22 (shown most clearly in fig. 2) for supporting the roll 20 of fabric. These claims were required to be divided on the ground that they are directed to an invention distinct and independent from that covered by original claims 1 to 20 inclusive, which are directed to a fabric laying and folding device examinable in class 270, subclass 31 as shown by Sussman, *et al.*, Isaacs, *et al.*, and Isaacs. The roll supporting arbor defined by claims 31 to 34 inclusive is capable of use in machines other than that shown by applicant and is regarded by inventors as a separate field of endeavor having attained a separate and distinct status in the art as evidenced by

the patents to Lathan and Gargolinski classified in Class 242 "Winding and Reeling." The roll supporting structure defined by claims 31 to 34 inclusive is not claimed as an element of the apparatus defined by the elected group of claims 1 to 30 inclusive; 43 to 55 inclusive; and the apparatus claimed by these claims will function equally as well if fabric supply supporting structure other than that claimed in claims 31 to 34 inclusive is used therein as evidenced by applicant's own disclosure in which the fabric supply is in the form of a bolt 16 arranged on platform 18 of carriage 12. The requirement of division 386 was traversed by applicant, and approved by the Examiner of Classification as follows:

> "Division between
>
> I Claims 1-30 and 35-47
>
> II Claims 31-34
>
> is approved.
>
> In the above groups the inventions as claimed are distinct separately usable, classified and searched."

Claims 35 to 42 inclusive which were presented by Paper No. 8 are directed to a subcombination of the apparatus claimed, for example, in elected claims 4 to 8 387 inclusive; comprising means (carriage 12) for movement relative to a surface (table 14) for guiding sheet material (fabric 16) to the surface, end-fold forming means (folder 14) for the guiding means, a band (78) anchored to the end-fold forming means and entrained about vertically spaced rotatable members (sprockets 80, 82) for lifting and lowering the end-fold forming means (44), and means (ratchet wheel 98 and pawl 102) for retaining one of the rotatable members against rotation. The specific structure claimed in claims 35 to 42 inclusive for raising and lowering the end-fold-former is not claimed in the elected claims, the latter claim any or all possible means for lifting and lowering the end-fold forming member (44). Structure other than that defined by claims 35 to 42 inclusive could be used in the apparatus defined by claims 4 to 8 inclusive for raising and lowering the end-fold former as evidenced by the patent to Sussman *et al.* 1,257,421 wherein screws 32 are provided for raising and lowering end-fold former 22, 23. Since claims 35 to 42 inclusive define a distinct and separately usable subcombination and the invention defined therein is distinct from that defined by the claims elected for prosecution they 389 were rejected on the ground that they are for an invention other than that which applicant elected to prosecute in the application. Applicant traversed this rejection and it was approved by the Examiner of Classification as follows:

> "The rejection of claims 35-42 as being to an invention distinct from that elected for prosecution is approved. Claims such as 4 through 8 of the claims elected for prosecution are drawn to a web folding organization including a carriage, means on the carriage for distending the web and including a fold forming member, means for raising and 390 lowering the member (broadly defined) and specific means for turning the member and maintaining it parallel to the folded web receiving surface.
>
> Claims 35-42 are drawn to a subcombination of web guiding means, a fold forming member and specific structure for raising and lowering the member. These claims therefore define a distinct and separately usable subcombination of the organization which subcombination was not previously claimed. Since the invention defined by claims 35-42 is distinct from that defined by the claims elected for prosecution the rejection of these claims on estoppel is approved."

Claims 3 and 20 stand finally rejected as defining nothing patentable over Sussman *et al.* 1,257,421. The reference disclosed carriage (11) adapted for movement over surface (13); means (59, 61) for limiting movement of the carriage; means (22, 23) on the carriage for distending the material (15) to define end folds therein; means (50, 51) at the limits of travel of the carriage for receiving and retaining the end folds; means (52, 53, 54, 55) on the carriage for positioning retaining means (50, 51) to receive the distending means 22, 23 in fold-inserting relation between surface (13) and retaining means (50, 51); 392 means (the upper ends of Sussman's positioning means 52, 53, 54, 55 off which drop bars 48 or 49 associated with the retaining means 50, 51 when they pass beyond pivotal bearings 52′, 53 to release the retaining means into engagement with folded material on distender 22, 23 when the carriage reaches its limit; Sussman's retaining means 50, 51 include a plurality of pins, (see lines 1 to 3, page 2 of the reference) which are spaced apart so as to engage through opening 24, 25 in distending means 22, 23. Applicant contends that if the cloth is high or low in any particular location Sussman's pins or members 50, 51 will not be individually effective for retaining the end fold stationary relative to table 13 as required by claim 3. It 393 is the position of the Examiner that if fabric of uniform thickness is employed in the Sussman machine the pins 50, 51 will be individually effective for retaining the end fold stationary relative to surface 13; should the fabric not be of uniform thickness the pins 50; 51 will be individually effective for retaining at least the first formed end fold stationary relative to the surface. With respect to claim 20, when Sussman's carriage 11 reaches the left-hand limit of travel the pins 50 clamp the fabric by engaging the material upon fold former 22, 23 and through the openings 24, 25 therein against surface 13 as required by this claim. See lines 9 to 18, p. 2 of the reference in which it is stated "As the carriage is thrown to one side of the table, say leftwardly, the bar 48 rides upwardly on the bearings 52-53 until the ends of the rod 48 pass beyond the pivotal bearings 52′-53′. Then the bar drops and *the points 50 thereof pass through the cut-away portions 24-25 in the folding bar and thus pin and hold the fabric as shown at 57.* The carriage may now be pushed rightwardly looking at fig. 2" (italics added).

Claims 48, 52 and 53 stand finally rejected as being readable upon Sussman *et al* 1,257,421 and Isaacs *et al* 819,548, while claim 49 stands rejected as readable upon 395 Isaacs *et al* alone and claims 54 and 55 stand rejected upon Sussman *et al* alone. Sussman *et al* disclose carriage (11); fabric guiding and end-fold forming means (22, 23); carriage limit means (59, 61); fold gripping means (50 or 51); and means (46 or 47) for guiding the gripping means into the end-fold forming means. As pointed out in the rejection of claims 3 and 20 Sussman's grippers 50 pass through the cut-away portions 24-25 provided in the upper and lower plates 23, 22 of his end-folder; therefore Sussman's gripper guide means 46 guides the grippers 50 into the folding means 24-25 as claimed by these claims. Sussman *et al* disclose means (32, 33, 396 36, 39, 40) for elevating the end-fold former (22, 23) and means comprising the pivotal support for the gripper guide means (46) for maintaining the latter in operative relation to the end-fold former as required by claims 52 to 55 inclusive. Sussman *et al* also disclose means (28, 31) for reversing the direction of the fabric guiding means (22, 23) when the carriage (11) reaches the carriage movement limit as required by claims 54 and 55. Isaacs *et al* disclose carriage (2); fabric guiding and end-fold forming means (26, 27); carriage limit means (43); end-fold gripping means (38 or 39 provided with gripper jaws 47); and means (36 cooperating with portions 55 on the end-fold grippers) for guiding the gripping means into the end-fold former 26 or 27 as required by these claims. Isaacs *et al* disclose means comprising pawl 32 and ratchet wheel 31 for elevating the end-fold former 26 or 27 as required by claims 52, 53.

Claims 49 to 51 inclusive stand finally rejected as not being patentable over Isaacs 1,338,570 in view of Isaacs *et al* 819,548. Isaacs 1,338,570 discloses carriage (9); U-shaped member (22, 23) for guiding the fabric and forming end-folds therein; means (17) for gripping a fold distended by member (22, 23) to retain it in distended form. Isaacs 1,338,570 does not disclose limit means, as 398 such, for limiting movement of his carriage and means carried with the end-fold forming means (22, 23) for guiding the gripping means (17) into the end-fold forming means at the carriage movement limit and for maintaining the gripping means out of engagement with the end fold carried by the forming means until the carriage reaches the limit of its movement as required by the claims. However, Isaacs *et al* 819,548 discloses it to be old to use limit means (43) for limiting movement of a fabric laying and folding carriage (2) along a support (1) and to provide means (36, fig. 9) on the end-fold forming means (26 or 27) adapted for cooperation with a finger (55) on the gripping means (38 or 39) for guiding the latter into 399 the end-fold former (26 or 27) and maintaining said means out of engagement with the end fold carried by the former (26 or 27) until the carriage reaches the limit of its movement. It is the position of the Examiner that there would be nothing patentable in view of Isaacs *et al* 819,548 in providing the device of Isaacs with suitable means for limiting the movement of his carriage 9 along the table, and a guide on his folder (22, 23) for guiding the gripping means 17 into the folder and for maintaining the gripper out of engagement with the fold of fabric on the end-fold former until the carriage reaches the limit of its movement.

For the reasons above stated it is believed that the final rejection of claims 3, 20, 31 to 42 inclusive; 48 to 55 inclusive is proper and should be affirmed.

Ground 11 of the appeal is not an appealable ground. The error alleged in this ground was raised in applicant's petition of August 5, 1944. The petition was denied in the decision of August 12, 1944.

Respectfully,

Examiner.

401

Supplemental Examiner's Statement to Board of Appeals, Paper No. 27, Dated February 10, 1945.

Div. 17
Room 405

Paper No. 27
AHG:lc

DEPARTMENT OF COMMERCE
UNITED STATES PATENT OFFICE
RICHMOND, VIRGINIA

402 In re application of
Herman W. Gilbert, *et al*
Serial No. 370,784
Filed: Dec. 19, 1940
For: Sheet Material Spreading Machine

Before the Board of Appeals

Supplemental Examiner's Statement.

Preparation of the Examiner's Statement in this appeal was delayed for approximately thirty days awaiting a proposed amendment which at an oral interview with the Ex-

403 aminer held just prior to the filing of the appeal, applicant's attorney advised the Examiner he was going to file. The proposed amendment was not filed. After preparation of the Examiner's Statement, but prior to the forwarding thereof, applicant's attorney held another interview with the Examiner during which a proposed amendment was discussed which would have placed the case in condition for allowance. Subsequent to the latter interview the amendment of February 6, 1945 was filed but has not been entered in the case for the reason that it is not in full accord with the amendments proposed at the interview 404 and does not place the case in condition for allowance. Furthermore, the amendment is not accompanied by a showing, duly verified, of good and sufficient reasons why it was not presented promptly after the interview held prior to the filing of the appeal as required by the third paragraph of Rule 68.

Claims 56 and 57 presented by the unentered amendment of February 5, 1945 appear to be allowable, and entry of the amendment to claim 3 proposed by the amendment will render it allowable. Claims 58 to 61 inclusive are not deemed to be patentable over the references relied upon and for the reason stated in the rejection of claims 49 to 51 in the original Examiner's Statement; claims 62, 63 are 405 not deemed to be patentable over Isaacs *et al* 819,548 on the ground that the cam plates 36 provided upon the fabric guiding and end-fold forming means 26, 27 of the reference are held to be the patentable equivalent of the pair of pivotally mounted arms required by these claims, also the alternately operative cloth guiding and end-fold forming means 26, 27 of the reference is held to be the patentable equivalent of the reversible fabric guiding means required by these claims.

Respectfully,

Examiner.

406 *Plaintiffs' Exhibit 1*

Affidavit on Behalf of Applicants, Filed With Brief to Board of Appeals, January 11, 1946.

IN THE UNITED STATES PATENT OFFICE.

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940,
For Sheet Material Spreading Machine

407 Division 17 Room 405

Affidavit of Henry L. Burkitt.

State of New York,
County of New York, ss:

Henry L. Burkitt, being duly sworn, deposes and says:

In the Examiner's Supplemental Statement, remarks are made regarding his delay in preparing his Statement on this appeal, and regarding the failure on the part of Applicants to show why the amendment proposed was not sooner filed. In this particular case, the Examiner had 408 been consulted in the application, immediately at the time that the Notice of Appeal was filed. The Examiner says that the amendment that was filed on February 6, 1945, was not accompanied by a showing, duly verified, of good and sufficient reasons why it was not presented promptly after the interview.

As a matter of fact, it was thought that the facts in this connection were not essential to the acceptance of the amendment, as such amendment had been filed and accepted without any special showing, especially since, as in this case, the matter was discussed in person with the Examiner and the explanation was then given. The Examiner never had said that he required any special showing for any delay in filing the amendment. As a matter of fact, the difficulty seems to arise not from any failure to make clear the reasons for failure to file the amendment as quickly as the Examiner desired it, but rather that his interpretation of the result of the conference was not the same as that of the Attorney for Applicants.

Certainly neither the Board of Appeals, nor the Examiner, needs to be told that it was a great difficulty to get from New York to Richmond. The proposal at the time of the Notice of Appeal was that the Attorney for Applicants would be back in Richmond to discuss the matter with the Examiner in order to place the case in condition for allowance, especially in view of the discussion with the Examiner at that time. 410

Between December 12, 1944, and February 6, 1945, less than two months elapsed. Applicants' Attorney made a careful and complete study of the claims in the record, and tried to make it possible to reduce the issues in the case to as few as possible. As a matter of fact, the opening statement in the proposed amendment is to that effect.

However, the Examiner has found that he did not have the right to retain the statement longer, and forwarded his statement on the appeal.

When it was finally realized that it would not be possible 411 to get to Richmond for the interview Attorney for Applicants desired, he filed the proposed amendment. That amendment has been turned down.

Under the circumstances, Applicants have done everything possible for the purpose of getting the case into condition for issue, or, at least, for limitation of the issues upon the appeal. That, however, has been denied to Applicants by the refusal to enter the amendment and to limit the issues of the appeal.

The statement that the amendment was not filed, in the first few lines of the Supplemental Statement, seems to be a complete misinterpretation of the situation. An amendment was filed. It was not the amendment which the Examiner seems to think Applicants were supposed to file. It was the amendment which Applicants thought they were going to file. Thus, there was a definite misunderstanding. There was not such delay that was not warranted by the circumstances.

HENRY L. BURKITT

Sworn to before me this
10th day of January, 1946.
Percy Freeman, Notary Public
413 Bronx County Clerk's No. 85
New York County Clerk's No. 616
Commission Expires March 30, 1946

Decision by Board of Appeals, Paper No. 30, Dated April 25, 1946.

Paper No. 30

Appeal No. 4,300

Hearing:
414 Feb. 19, 1946 MB

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE BOARD OF APPEALS

Ex parte Herman Walter Gilbert,
Frank H. Dexter and Walter Deichmann

Application for Patent filed December 19, 1940, Serial No. 370,784. Sheet Material Spreading Machine.

Mr. Henry L. Burkitt for appellants.

This is an appeal from the decision of the Examiner finally rejecting claims 3, 20, 31 to 42, inclusive, and 48 to 55, inclusive. In the brief filed the appeal as to claims 20, 31 to 35, inclusive, 37, 39 and 41 has been withdrawn. 416
Claims 36 and 48 are representative and read as follows:

36. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for imparting 417 step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

48. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, a carriage for movement relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers, means for limiting movement of the carriage relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and means for guiding the gripping means into the end-fold forming means at the carriage movement limit.

The references relied upon are:

Isaacs *et al*	819,548	May 1, 1906
Sussman *et al*	1,257,421	Feb. 26, 1918
Isaacs	1,338,570	Apr. 27, 1920
Latham	1,793,180	Feb. 17, 1931
Gargolinski	1,803,180	Apr. 28, 1931

The subject matter in issue is a machine for spreading cloth in superimposed layers of uniform area upon a table so that a plurality of garment pieces can be stamped out at a single operation. 419 The structure involved is somewhat complicated but is fully set forth in the Examiner's Statement and need not be repeated here. In general the device consists of a carriage which spans the table from side to side and on which is supported the cloth in the form of a flat bolt as shown at 10 in Fig. 1, or in the form of a roll 20 also shown in this figure. The cloth is led through a slot in a spreader structure which extends transversely across the table. This spreader is of channel shape and is pivoted in blocks carried in upright 36 at the side of the table.

The stop devices 220 are mounted in fixed positions at each end of the table. Mechanism is provided whereby the 420 spreader is elevated step-by-step as the carriage approaches the right hand end as shown in Fig. 1. When the spreader reaches its limit at either end a holding bar 288 carrying pins is dropped on the fold to hold it in place as the channel shape spreader is withdrawn. The carriage is moved back and forth by hand.

After the Examiner's Statement was prepared a proposed amendment, Paper No. 25, was filed indicating amendments to claim 3 and presenting new claims 56 to 63 to take the place of claims 20, 31 to 35, 37, 39, 41 and 48 to 55. This amendment was refused on the grounds that it did not put the case in condition for issue and there was no verified showing why it was not earlier presented.

421 In a supplemental statement by the Examiner it was indicated that should claim 3 be amended as proposed it would be allowable and also that proposed claims 56 and 57 could be allowed. The Examiner went further and stated that he did not consider the remaining proposed claims to be patentable over the art of record.

Since this proposed amendment has not been entered we must hold that it is not before us for consideration.

Since the Examiner has held that should claim 3 be amended in the manner proposed by appellant it would be allowable. Therefore, there is nothing for us to decide
422
in connection with this claim and the appeal on this claim must be dismissed.

Claims 36, 38, 40 and 42 have been rejected as being drawn to subject matter which is divisible from claims 4 to 8. Claims 4 to 8 were original claims and were examined and allowed before claims 36, 38, 40 and 42 were presented. It therefore was held that appellants had made an election and were estopped from presenting claims to this alleged divisible subject matter. We are unable to see any line of division between these two groups of claims. Claims 4 to 8 are for the general combination in which emphasis is placed upon the mechanism for reversing the folding device as it moves from one limit to the other.
423
These claims also include broadly means for lifting and lowering the folding member. The other group of claims (36, 38, 40 and 42) also cover the general combination but stress is placed on the mechanism for raising and lowering the folding member by a step-by-step mechanism. While it is true that other specific mechanism like that shown in the patent to Sussman *et al* could be used for raising and lowering the spreading member, still that does not appear to have any bearing on the matter in issue. Obviously other specific raising and lowering apparatus could be used but since this apparatus forms only one part of the general combination claimed it is not the determining

factor. The decision of the Examiner on claims 36, 38, 40 and 42 must be reversed.

Claims 48 to 55, inclusive, stand rejected on the art cited above. These claims call for a channel shaped spreading member and means for guiding the gripping bar 288 into the side of the fold forming means as shown in Fig. 11. It will be noted that in this figure there are slots 304 provided in the side walls through which pins 297 carried by the gripping bar may pass. The patent to Sussman *et al* also shows a channel shape spreader but the two side walls are quite close together. In the operation of the machine 425 the gripping bars 50, 51 drop on the top of this spreader and the pins pass through the slots 25 in said bar. There is therefore a distinct difference between appellants' structure set forth in this group of claims and the structure shown in the references, but this difference is not deemed to be of patentable moment. The patent to Isaacs 1,338,570 shows the gripping device 17 as entering the side of the spreader so as to hold the fold in place when the spreader is moved toward the other end of the table.

It is not deemed necessary to discuss in detail the other references cited. The patent to Isaacs *et al* 819,548 shows a fabric folding machine which operates in much 426 the same manner as that here claimed but the structure involved is radically different. The other two references are concerned only with the roll supporting means which is not involved in the present claims.

The decision of the Examiner is affirmed as to claims 48 to 55, inclusive, and is reversed as to claims 36, 38, 40 and 42. The appeal is dismissed as to claims 3, 20, 31 to 35, 37, 39 and 41.

In event of appeal attention is directed to *In re Boyce*, 32 CCPA 718, 144 Fed. (2d) 896, 1944 C. D.___, 568 O. G. 568, 63 USPQ 80, in regard to specifically including in the

427 appeal notice *all* grounds of rejection in the Examiner's Statement not expressly overruled by the Board.

April 25, 1946

C. H. SHAFFER
Examiner-in-Chief
F. J. PORTER
Examiner-in-Chief
O. B. ROEPKE
Examiner-in-Chief
Board of Appeals

428

Mr. Henry L. Burkitt,
19 West 44th Street,
New York 18, N. Y.

Decision by Board of Appeals on Request for Reconsideration, Paper No. 32, Dated July 22, 1946.

Paper No. 32

Appeal No. 4,300 MB

429

IN THE UNITED STATES PATENT OFFICE

BEFORE THE BOARD OF APPEALS

Ex parte Herman Walter Gilbert
Frank H. Dexter and Walter Deichmann

Application for Patent filed December 19, 1940, Serial No. 370,784. Sheet Material Spreading Machine.

Mr. Henry L. Burkitt for appellants.

On Request for Reconsideration.

This is a petition for reconsideration of our decision of April 25, 1946.

In response to appellant's remarks regarding claims 48 to 55, it may be said that we did not contend that every feature defined in these claims was met by the prior art. Instead we held that these differences were not a matter 431 of patentable moment. We are still of the opinion that this position is correct.

Our reasons for not considering the proposed amendment filed after the appeal was taken were that the Examiner had refused to enter the same. Under these conditions, as a rule the Board must refuse to consider the amendment. Whether or not a proposed amendment shall be formally entered is an administrative matter which does not come within our jurisdiction. We see no error in refusing to consider the proposed amendment.

The petition has been considered to the extent indicated but is denied with respect to making any changes in our 432 former decision.

July 22, 1946

C. H. SHAFFER
Examiner-in-Chief
F. J. PORTER
Examiner-in-Chief
O. B. ROEPKE
Examiner-in-Chief
Board of Appeals

Mr. Henry L. Burkitt,
19 West 44th Street,
New York 18, N. Y.

433

Amendment, Filed by Applicants, September 25, 1946.

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940,
For Sheet Material Spreading Machine.

Division 17 Room 405

434

Hon. Commissioner of Patents,
Washington 25,
D. C.

Sir:

In view of the conference had with the Examiner-in-Charge of the above entitled application, please amend the application as follows:

Rewrite claim 3 as follows:

64. Apparatus for disposing sheet material in a plurality of successively superimposed layers of substantially identical extent, which includes a carriage for movement 435 over a surface upon which the layers are to be disposed, limits for the movement of the carriage over the surface, means on the carriage for distending the sheet material to define end folds in the material, means disposed at the limits of travel of the carriage for receiving and retaining the end folds, the carriage and the distending means cooperating to distend the end folds into cooperation with the receiving and retaining means, means carried by the carriage for positioning the retaining means to receive the distending means in fold-inserting relation between the surface and the retaining means when the distending means approaches a limit, and

436 means to release the retaining means into engagement with the end fold on the distending means when the carriage reaches the limit, the retaining means including a plurality of members for retaining the end fold stationary relatively to the surface while the distending means is retracted from the retained fold, each of the members being constructed to be effective upon the end fold independently of the effectiveness of the other members.

For claims 20, 31, 32, 33, 34, 35, 37, 39 and 41, substitute the following:

437 65. In a machine for laying down upon a surface successsive superimposed layers of sheet material of substantially identical extent, means for movement relative to the surface for guiding the sheet material to the surface, end-fold forming means for the guiding means, the end-fold forming means comprising means for directing a fold in the direction of movement of the guiding means, and a plurality of individually movable pressure-applying means for cooperating with the end-fold forming means to apply gripping pressure simultaneously to the fold at points spaced along the fold at the end of the layer.

66. In a machine for laying down upon a surface
438 successive superimposed layers of sheet material of substantially identical extent, a carriage for movement relative to the surface for guiding the sheet material to the surface, end-fold forming means for the carriage, the end-fold forming means comprising means for directing a fold in the direction of movement of the carriage, and a plurality of individually actuated means for being brought into cooperation with the end-fold forming means to grip a fold distended by the end-fold forming means and to retain the fold in the distended form, and means for bringing the individually actuated gripping means simultaneously into gripping and retaining position.

67. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, the guiding and forming means comprising a single U-shaped member, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the
member to retain it in distended form, and means for lift- 440
ing the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, the means being carried with the member and extending lengthwise of the carriage beyond the free ends of the arms of the member, and having a fixed relation at all times to the member, said lifting means comprising means for guiding the gripping means between the arms of the U at the carriage movement limit and for retaining the gripping means out of contact with the arms of the U until the carriage reaches a limit of its movement.

441

68. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, the guiding and forming means comprising a single U-shaped member, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the member to retain it in distended form, and means pivotally mounted substantially medially of the extent of and extending lengthwise of the carriage beyond the free ends

of the arms of the member, and movable at all times with the member, for engaging the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said engaging and lifting means comprising means for guiding the gripping means between and free of the arms of the U at the carriage movement limit and for retaining the gripping means free of the arms of the U until the carriage reaches that limit of its movement.

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69. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having a single member constituting means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and a pair of arms pivotally mounted upon and retained to extend longitudinally in opposite directions from the fabric guiding means, the arms forming 444 means for engaging the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said arms comprising means for guiding the gripping means into the end-fold forming means at the carriage movement limit, the fabric guiding means being reversible to form folds in either direction of carriage movement, the arms retaining a fixed relation to the fabric guiding means for each position of the fabric guiding means.

70. In a machine for laying down upon a surface successive superimposed layers of sheet material, a carriage for movement back and forth relative to the surface, the carriage having a single member constituting means for guiding fabric into position upon the surface and for forming the end folds of the layers during such movement of the carriage both back and forth over the surface, means for limiting movement of the carriage in both directions relative to the surface, means for gripping a fold distended by the end-fold forming means to retain it in distended form, and a pair of arms pivotally mounted 446 upon and retained to extend longitudinally in opposite directions from the fabric guiding means, the arms forming means for engaging the gripping means at a limit of movement of the carriage as the carriage approaches that limit of movement and for lifting that gripping means free of the surface and superimposed layers already formed and disposed on the surface, said arms comprising means for guiding the gripping means into the end-fold forming means at the carriage movement limit, the fabric guiding means being reversible to form folds in either direction of carriage movement, and means for elevating the end-fold forming means, the arms being assembled with the end-fold forming means to remain in a constant 447 operative relation to the fabric guiding means for every position of the fabric guiding means.

Remarks

The assistance of the Examiner-in-Charge courteously accorded Counsel for Applicants in a conference on September 23, has greatly expedited the prosecution of the application and culminated in clarifying the present status of the application. It was agreed that claim 3 should be amended to place it in the form considered by the Examiner to be allowable prior to the hearing on the appeal. Likewise, claims 56 and 57, which were presented by the amendment not entered on February 7, 1945, would be presented again in an amendment to be entered at this time.

At the conference, claims 60, 61, 62 and 63, as presented by that amendment of February 7, 1945, were considered and agreement reached on the form in which those claims should be presented for their allowance.

Claim 3 has been rewritten into claim 64. Claims 56 and 57 are now presented again as claims 65 and 66. They need no further discussion.

449 Claims 60, 61, 62 and 63, as amended, in accordance with the understanding reached, are being presented as claims 67, 68, 69 and 70. It is believed that the Examiner-in-Charge will now find these claims to be in perfect accord with the understanding reached. Claim 60 is not presented in identically the same form because in re-reading it, it was found that the language was not clear. For that reason, the "means for lifting the gripping means, etc." has been specifically defined and then it has been located in subsequent phrasing. In other words, as agreed upon at the conference, the claim would have read in lines 11, *et seq.*, "and means carried with the member
450 and extending lengthwise of the carriage beyond the free ends of the arms of the member, the means having a fixed relation at all times to the member for lifting the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface as the carriage approaches either of the movement limits, * * *." This form, however, is not believed to be a clear definition of the means as a structure and then a specific delimitation on that structure as to its location. For that reason, the claim was amended by transposing a part so that it would read, "and means for lifting the gripping means free of the surface and superimposed folded layers already formed and disposed on the surface

as the carriage approaches either of the movement limits, the means being carried with the member and extending lengthwise of the carriage beyond the free ends of the arms of the member and having a fixed relation at all times to the member, * * *.''

It is believed that this form is better for clarity, and still remains the same so far as the understanding reached is concerned.

Now, on the substantive side of the question, it is believed that it was clear at the interview that claims 67, 68, 69 and 70, limited, as they are, to ''a single member'' 452 or ''a single U-shaped member'' avoid either of Isaacs' patents, or any possible combination of them. This is made especially true in claims 67 and 68 where the lifting means is defined specifically as being carried with that single member and extending lengthwise of the carrriage beyond the free ends of the arms of that member. Of course, whatever lifting means may be present in Isaacs, 819,548, and Isaacs, 1,338,570, does not include anything which extends beyond the free ends of the arms of any U-shaped member which forms a fold. The patent to Sussman has no lifting means which is carried in any way by any such U-shaped member, or any such single folding member. 453

Thus each and every of these claims, as now presented, has no relationship whatsoever to any of the references of record. In utility there is the important result that as the fold forming member approaches the clamping means in either direction and regardless of the level at which the clamping operation is to be performed, and with but a single fold forming member, that is, the U-shaped member, the clamping means is lifted free and retained lifted free of the cloth until the final instant when the fold forming member reaches the end of movement as defined by a stop. At that time, the gripping means is between the arms of the U or, as set forth in claims 69 and 70, has been guided "into" the end-fold forming means. No matter what the position of the fold forming member may be, the arms always present the clamping means to the fold forming means in identically the same relationship. Thus the fold forming means, being a single U-shaped member, is reversed at the different end positions. Still the arms bring the clamping means into that member in identically the same relationship. The U-shaped member is elevated to maintain a constant relationship to the cloth being laid down upon the table. Still the arms present the clamping means in the same relationship for every position of the fold forming means. 455

This statement clearly brings forth subject matter of invention which no reference or combination of references, as considered by the Board of Appeals or by the Examiner-in-Charge, can in any way anticipate. Especially with the statement by the Board of Appeals that the structure in Isaacs, 819,548, is radically different from Applicants' structure, the conclusion must be reached that these claims, defining such radically different structure, are patentable, and the action of the Examiner in allowing the admission of the amendment with such an understanding is fully proper.

456 All of the claims under final rejection have not been eliminated from the application by this amendment for the reason, as expressed to the Examiner-in-Charge, that an appeal by way of an action under §4915 R. S. is in prospect at the present time. Thus the amendment, as presented, actually is responsive and should be entered on this basis alone.

Very respectfully,

HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street,
New York 18, N. Y.
September 24, 1946.
a-b7

Plaintiffs' Exhibit 1 457

Official Letter of Examiner, Paper No. 34, Dated December 17, 1946.

DEPARTMENT OF COMMERCE

UNITED STATES PATENT OFFICE

Richmond 20, Virginia

Please find below a communication from the EXAMINER in charge of this application. 458

CASPER W. OOMS
Commissioner of Patents.

Henry L. Burkitt
19 West 44th Street
New York 18, New York

Applicant: Herman Walter Gilbert *et al*
Ser. No. 370,784
Filed December 19, 1940
For SHEET MATERIAL SPREADING MACHINE

This is responsive to amendment filed September 25, 1946. 459

The above referred to amendment has been entered in the case.

The amendment of February 7, 1945, stands unentered for the reasons stated in the examiner's supplemental statement on appeal.

Claims 1, 2, 4 to 19 inclusive; 21 to 30 inclusive; 43 to 47 inclusive; 64 to 70 inclusive, are allowed.

Examiner

460 *Plaintiffs' Exhibit 1*

Letter From Applicants to Commissioner, Filed December 19, 1946.

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940,
For Sheet Material Spreading Machine.

461 Division 17 Room 2417

Hon. Commissioner of Patents,
Washington 25,
D. C.

Sir:

In response to the Official Letter of December 17, 1946, the consideration of the Examiner of the amendment filed September 25, 1946, is greatly appreciated.

It is believed that the statement of the allowed claims failed to take into consideration claims 36, 38, 40 and 42, which were allowed by the Board of Appeals. 462

Very respectfully,

HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street,
New York 18, N. Y.
December 18, 1946,
a-b7

Plaintiffs' Exhibit 1 463

Letter From Applicants to Commissioner of Patents, Filed March 6, 1947.

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940,
For Sheet Material Spreading Machine.

Division 17 Room 2417 464

Hon. Commissioner of Patents,
Washington 25,
D. C.

Sir:

On December 19, 1946, a letter from Applicants was filed, calling the Examiner's attention to the discrepancy in the Examiner's Letter of December 17, 1946, which failed to state that claims 36, 38, 40 and 42 were included among the allowed claims.

In view of the present status of this application under an action brought under R. S. §4915, it is believed neces- 465
sary that this letter of December 17, 1946, or a response to the letter of December 19, 1946 and the present letter, should definitely state that claims 36, 38, 40 and 42 stand allowed.

Such action on the part of the Examiner is respectfully requested.

Very respectfully,

HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street,
New York 18, N. Y.
March 5, 1947.
a-b7

466 *Plaintiffs' Exhibit 1*

Official Letter From Examiner, Paper No. 38, Dated March 19, 1947.

Div. 17 Room 2096 Paper No. 38

DEPARTMENT OF COMMERCE

UNITED STATES PATENT OFFICE

Washington 25, D. C.

467 Please find below a communication from the EXAMINER in charge of this application.

CASPER W. OOMS
Commissioner of Patents.

Henry L. Burkitt
19 West 44th Street
New York 18, New York

Applicant: Herman Walter Gilbert *et al*
Ser. No. 370,784
Filed December 19, 1940
468 For Sheet Material Spreading Machine

This is responsive to letters filed December 19, 1946, and March 6, 1947.

Claims 36, 38, 40 and 42 referred to by applicants were not allowed by the Board of Appeals as stated in applicants' letter of December 19, 1946. The Board of Appeals reversed the examiner in his final rejection of these claims on the ground that they are drawn to subject matter which is divisible from original claims 4 to 8 inclusive. Since claims 36, 38, 40 and 42 have not been examined to determine whether they are patentable they obviously could not be included with the allowed claims

469

enumerated in the Office action of December 17, 1946. These claims will receive an examination to determine their allowability upon termination of the Civil Action in which the application is now involved.

Examiner

AHG:cdn

(Stamped): U. S. Patent Office, Mar. 19 1947, Mailed.

470

Letter From Applicants to Commissioner of Patents, Filed April 7, 1947.

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940.
For Sheet Material Spreading Machine.

Division 17 Room 2096

471

Hon. Commissioner of Patents,
Washington 25,
D.C.

Sir:

In response to the Official Letter of March 19, 1947, it is respectfully submitted that, in view of the action by the Board of Appeals reversing the Examiner as to claims 36, 38, 40 and 42, and in view of the position taken by the Examiner that these claims are not disposed of, the application is not in condition for a final determination on an appeal either under R. S. §4915 or by appeal to the Court of Customs and Patent Appeals. It is respectfully submitted that the Examiner should have disposed of the question of patentability of these claims before permitting the case to go to such state that appeal necessarily had to be filed within six months after the action of the Board of Appeals.

In other words, it is submitted that, after the action of the Board of Appeals reversing the Examiner on claims 36, 38, 40 and 42, the Examiner should immediately have taken action on those claims; otherwise Applicants necessarily had to assume that those claims had been allowed, 473 and, therefore, in filing the appeal under R. S. §4915, they would have had to include those claims within the complaint against the Commissioner.

It is respectfully submitted that prosecution of the application had, therefore, not been terminated before the Examiner under the Examiner's own statement when the Examiner takes the position that no final ruling had been made upon the patentability of claims 36, 38, 40 and 42.

It is, therefore, respectfully requested that the Examiner either (a) note that claims 36, 38, 40 and 42 are patentable and have been allowed by the Board of Appeals, or (b) ask for remand of the case for consideration of these 474 claims so that the entire issue of the case may be considered on the suit against the Commissioner of Patents under R. S. §4915.

Very respectfully,
HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street,
New York 18, N. Y.
April 4, 1947.
a-b7

Plaintiffs' Exhibit 1 475

Official Letter From Examiner, Paper No. 43, Dated January 19, 1948.

Paper No. 43

DEPARTMENT OF COMMERCE

UNITED STATES PATENT OFFICE

Washington

Address only
The Commissioner of Patents 476
Washington 25, D. C.

Please find below a communication from the EXAMINER in charge of this application.

LAWRENCE C. KINGSLAND
Commissioner of Patents.

Henry L. Burkitt
19 West 44th Street
New York 18, N. Y.

Division: 17, Room 2096
Applicant: H. W. Gilbert *et al.*

Ser. No. 370,784 477
Filed December 19, 1940
For SHEET MATERIAL SPREADING MACHINE

Responsive to amendment filed June 28, 1947.

Applicants' request that the rejection of claims 36, 38, 40 and 42 made in the Office action of May 9, 1947, be withdrawn for the reasons stated in the first paragraph of the remarks accompanying the above referred to amendment is denied. These claims heretofore were finally rejected by the Examiner on the ground of misjoinder of inventions and upon appeal the Board of Appeals reversed the Examiner in his rejection of the claims on that ground.

478 These claims have never been considered by the Examiner in connection with the prior art to determine whether they present patentable subject matter. The prosecution of the case is now opened only to the extent of determining whether the subject matter of these claims is patentable. The prosecution of the application with respect to the subject matter claimed by the claims of the unentered amendment of February 7, 1945, is closed in view of the final action of June 13, 1944.

Claims 36, 38, 40 and 42 are, therefore, again rejected
479 and newly added claims 71 and 75 to 79 inclusive are now
rejected as being unpatentable over Cutter in view of Schneider for the reason stated in the Office action of May 9, 1947. Applicants have failed to point out wherein claims 36, 38, 40 and 42 define anything patentable over these references. It would be merely a matter of mechanical expediency and design and would involve nothing inventive to dispose the rotation imparting means shown by Cutter for operating his spreader controlling screw 27 in substantially the same plane as the rotatable member 32 or 35 of the spreader lifting and lowering structure of the Schneider patent as required by the newly added claims.

Claims 73 and 74 are each rejected as being obviously
480 clearly readable upon the patent to Schneider. With respect to claim 74 step-by-step motion is capable of being imparted to Schneider's member 35 by the rotation imparting means 40 as recited in the last line of the claim.

Claims 1, 2, 4 to 19 inclusive; 21 to 30 inclusive; 43 to 47 inclusive; 64 to 70 inclusive and 72 are allowed.

The above action is made Final.

Examiner

AHG/hbw

Plaintiffs' Exhibit 1 481

Notice of Appeal to Board of Appeals, Dated February 3, 1948.

IN THE UNITED STATES PATENT OFFICE

In the Application of
H. W. Gilbert, *et al.*,
Serial No. 370,784,
Filed December 19, 1940,
For Sheet Material Spreading Machine

Division 17 Room 2096 482

Hon. Commissioner of Patents,
Washington 25,
D. C.

Sir:

The Applicants, by their Attorney, Henry L. Burkitt, Esq., appeals from the final rejection of the above entitled application, dated January 19, 1948.

The grounds for the appeal are as follows:

1. The Examiner erred in refusing to hold that the Board of Appeals had reversed him, and had held that claims 36, 38, 40 and 42 were patentable. 483

2. The Examiner erred in refusing to allow claims 36, 38, 40 and 42.

3. The Examiner erred in holding that the prosecution of the application with respect to the subject matter claimed in claims 58 to 63, inclusive, was closed, and in refusing to enter those claims for further consideration in this application.

4. The Examiner erred in rejecting claims 36, 38, 40, 42, 71, and 75 to 79, inclusive, as unpatentable over the patent to Cutter in view of the patent to Schneider.

5. The Examiner erred in holding that the patent to Schneider would suggest how to employ a band or chain entrained about rotatable members or sprockets for lifting and lowering the end folder of Cutter, in connection with the rejection of claims 36, 38, 40, 42, 71, and 75 to 79, inclusive.

6. The Examiner erred in holding that it would not be patentable, in view of the patent to Schneider, to substitute sprocket and chain means for the screw means of Cutter, as required by claims 36, 38, 40, 42, 71, and 75 to 79, inclusive. 485

7. The Examiner erred in holding that the patent to Schneider suggests how to substitute sprocket and chain means for the screw means shown in the patent to Cutter, to anticipate the structures of claims 36, 38, 40, 42, 71, and 75 to 79, inclusive.

8. The Examiner erred in holding that it would be merely a matter of mechanical expediency and design to dispose the rotation imparting means of Cutter for operating his spreader controlling screw in substantially the same plane as the rotatable member of the spreader lifting and lowering structure, as required by claims 71 and 75 to 79, inclusive. 486

9. The Examiner erred in holding that claims 73 and 74 are readable upon the patent to Schneider.

10. The Examiner erred in holding that step-by-step motion is capable of being imparted in the patent to Schneider as recited in claim 74.

11. The Examiner erred in refusing to allow claims 36, 38, 40, 42, 58 to 63, inclusive, 71, and 73 to 79, inclusive.

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The fee for the above indicated appeal has been paid in connection with the appeal which was filed on December 12, 1944.

Very respectfully submitted,

HENRY L. BURKITT
Attorney for Applicants

19 West 44th Street,
New York 18, N. Y.
February 3, 1948.
a-b7

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Examiner's Statement to Board of Appeals, Paper No. 45, Dated April 12, 1948.

Div. 17 Room 2096 Paper No. 45

UNITED STATES PATENT OFFICE
DEPARTMENT OF COMMERCE
WASHINGTON, D. C.

489

In re application of

Herman Walter Gilbert et al.
Ser. No. 370,784

BEFORE THE BOARD OF APPEALS ON APPEAL

Filed: Dec. 19, 1940
For: SHEET MATERIAL
SPREADING MACHINE

Examiner's Statement.

This is an appeal from the final rejection of claims 36, 38, 40, 42, 71 and 75 to 79 inclusive. (Claims 1, 2, 4 to 19 inclusive; 21 to 30 inclusive; 43 to 47 inclusive; 64 to 70 inclusive and 72 have been allowed.) Claims 36, 38, 40 and 42 were involved in Appeal No. 4300 (Paper No. 24) previously filed in this application. The Board of Appeals in its decision on said appeal (Paper No. 30) reversed the examiner in his rejection of these claims solely on the ground of misjoinder of inventions. The application is now involved in a suit under Sec. 4915 "Revised Statutes" and the prosecution of the application before the Office has been opened only to the extent of determining 491 whether the subject matter of these claims and later presented claims 71 and 75 to 79 inclusive directed to the same subject matter is patentable.

The appealed claims are as follows:

> *Claim 36.* In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-492 fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for imparting step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.
>
> *Claim 38.* In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the

surface, and end-fold forming means for the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting and lowering means including a chain having its ends anchored to the end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for imparting step-by-step rotation to one of the sprockets to move the end-fold forming means vertically.

Claim 40. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially indentical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, 495 the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically. 494

Claim 42. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a chain having its ends anchored to the 497 end-fold forming means, a pair of vertically spaced sprockets, the chain being trained around the sprockets, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the sprockets to move the end-fold forming means vertically.

Claim 71. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material and for forming end-folds therein, means for 498 lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, the rotation-imparting means being disposed substantially in the same plane as the member, and means movable in a plane substantially parallel to said plane of said member for energizing the rotation-imparting means to impart step-by-step motion to said member.

Claim 75. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable 500 members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, the rotation-imparting means being disposed substantially in the same plane as the member, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane of said members for energizing the rotation-imparting means to impart step-by-step motion to said member.

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Claim 76. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane of said members for energizing the rotation-imparting means to impart step-by-step motion to said member.

Claim 77. A machine for spreading sheet material to form successive superimposed layers of 503 sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, 504 and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for energizing the rotation-imparting means.

Claim 78. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, and means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for imparting step-by-step motion to said member. 506

Claim 79. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for spreading the material and for forming end-folds therein, means for limiting movement of the spreading-and-end-fold-forming means to form layers of predetermined extent, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable 507 members spaced apart and located substantially in the same plane, the band being trained around the members, means actuated when the spreading-and-end-fold-forming means is limited in its movement by the movement-limiting means and movable in a plane substantially parallel to said plane for imparting step-by-step motion to said member, and means for adjusting the extent of each step-by-step movement.

The invention alleged in the claims of the instant appeal relates to mechanism for elevating the fold forming blades of a reciprocable fabric folding and laying carriage.

Applicant's entire machine has been described by the examiner in his statement (Paper No. 26) on Appeal No. 4300 previously filed in the application and need not be repeated here.

The apparatus of the appealed claims comprises carriage 12 arranged for movement back and forth along table 14, a device 44 of substantially U-shaped cross-section (see figs. 10, 11) for laying the fabric upon the table and for transversely folding it. The device 44 is mounted for oscillation in bearing blocks 66 arranged for vertical movement in vertical guides 86 provided in vertical standards 24, 26 at the opposite sides of the carriage. 509 Each block is connected to an endless chain 78. The chain 78 adjacent carriage standard 24 (viewing Fig. 2) is trained over sprockets 80, 82 arranged on the interior surface of standard 24 while chain 78 adjacent carriage standard 26 is trained over sprockets 92, 94 arranged on the interior surface of standard 26. The sprockets 80, 92 are secured to a shaft 90 which may be manually rotated by handwheel 100 provided at one end thereof to move the chains 78 and blocks 66 secured thereto. A rachet wheel 98 is fixed to shaft 90 and is engaged by a pawl 102 mounted for pivotal movement on carriage standard 24 to 510 prevent the blocker 66 and folding device from gravitating downwardly. The chains 78 are normally intermittently driven to vertically raise the blocks 66 and associated fabric layer and folder 44, as the height of the pile of folded fabric on the table 14 increases, by a pawl and ratchet mechanism 122,110 (see Figs. 4 and 5). Ratchet wheel 110 is drivingly connected to the chain engaging sprocket 82 by gears 104,106 positioned exteriorly of carriage standard 24 and rotatable in a vertical plane. As carriage 12 reaches the right-hand end of table 14 (viewing Fig. 1) roller 126 supported on pivoted lever 120 which carrier pawl 122 of said pawl and ratchet mechanism engages a fixed abutment 128 thus causing the

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pawl to rotate ratchet wheel 110, which in turn, rotates gears 104,106 and sprocket 82 which latter drives the chains 78 resulting in vertical elevation of the blocks 66 and folder 44 journaled therein.

The following references are relied upon:

Cutter	1,866,088	July 5, 1932
Schneider	2,203,970	June 11, 1940

Cutter discloses a device for laying and folding fabric upon a support comprising a carriage 12 reciprocable along support 7; fold-forming means 24, 25 supported in 512 brackets vertically slidably supported on guides on the carriage; screw 27 threadedly engaged with brackets 23 and rotatable by handcrank 31 to manually elevate the brackets and fold-forming means; means for elevating the brackets and fold forming means step-by-step comprising ratchet wheel 34 secured to the lower end of one of the screws 27; pawl 35 for rotating the ratchet wheel; and rack and pinion means 32, 33 for moving said pawl intermittently.

Schneider discloses a device for laying and folding fabric upon a support comprising carriage 16 reciprocable along support 26; fold-forming means 31 journaled in heads 28 vertically slidable in guides 27 provided 513 in vertical standards at the opposite sides of the carriage; means for elevating the heads 28 and fold-forming means comprising endless chains 36 (see Fig. 7) connected to heads 28 at 37 and trained over sprockets 32, 35 arranged on the interior surfaces of the vertical carriage standards; the sprockets 35 are secured to a shaft 34 rotatably mounted in the carriage; the shaft 34 is provided with a handwheel 40 for rotating it and thus drive the sprockets 35 and chains 36 to elevate heads 28 and the fold forming means 31; handwheel 40 is provided with a ratchet 41 which is engaged by pivoted pawl 42 for holding the elevating means in its adjusted position.

Claims 36, 38, 40, 42, 71 and 75 to 79 inclusive stand finally rejected as not being patentable over Cutter in view of Schneider. The Cutter patent discloses end-fold forming means (24 and 25) associated with means (11) movable relative to surface (7) for guiding sheet material to the surface; means (28, 29, 30, 31) including screw (27) for lifting and lowering the end-fold forming means (24, 25); and means (32, 33, 34, 35, 36, 38′) for imparting step-by-step rotation to screw (27) to move the end-fold forming means (24, 25) vertically. The patent to Schneider discloses it to be old to employ a band or chain (36) en- 515 trained about rotatable members or sprockets (32, 35) and anchored to the supporting heads (28) in which the end-fold forming means (31) is journaled for lifting and lowering the end-fold forming means. It is the position of the examiner that there would be nothing patentable in view of this teaching of Schneider in substituting for the screw means (27) employed by Cutter for lifting and lowering his end-fold former, sprocket and chain means as taught by Schneider. The catchers 9, 10 at the opposite ends of Cutter's support 7 constitute the limit defining means or the means for limiting movement of the spreading-and-end-fold-forming means referred to in claims 40, 516 42, and 75 to 78 inclusive. Note that in Cutter the means (32-36) for imparting step-by-step rotation to screw (27) to move end folder (24, 25) vertically engages element (38′) of the limit-defining means (10) as required by claims 40 and 42. Claims 71 and 75 claim that the means (104, 106) for imparting rotation to sprocket (82) is disposed substantially in the same plane as said sprocket (82) and that the means (110, 120, 122) for energizing means (104, 106) to impart step-by-step rotation to sprocket (82) is movable in a plane substantially parallel to the plane of sprocket (82); claims 76 to 79 inclusive claim that the means (110, 120, 122) for energizing the rotation imparting means (104, 106) is movable in a plane substantially parallel to the plane in which the rotatable mem-

517 bers (80, 82) around which band (78) is trained are located. With respect to these limitations in claims 71 and 75 to 79 inclusive it is the position of the examiner that it would be merely a matter of mechanical expediency and design and would involve nothing inventive to dispose the rotation imparting means shown by Cutter for operating his spreader controlling screw (27) in a plane substantially parallel to that in which the rotatable members (32 and 35) of the spreader lifting structure of the Schneider patent are located. Cutter discloses means for adjusting the extent of each step-by-step movement (as claimed by claim 79) comprising a stop 38 adapted to be located in any of several holes provided in rack 33. 518

Claim 73 and 74 stand finally rejected as being obviously clearly readable upon the Schneider patent. The reference discloses a machine for performing the function recited by these claims which included means (comprising carriage 16 and fabric guides 19, 20, 21, 22) for guiding material to the position where the layers are to be formed; means (28-31) for spreading the material and forming end folds therein; means (34) including a band (36) anchored to the spreader and end-fold former (28-31) and trained around rotatable members (32, 35) which are spaced apart and located in substantially the same plane for lifting and lowering the spreader and end-fold former. The handwheel (40) of the reference constitutes the "means for imparting rotation to one of said members" claimed in lines 3 and 4 from the bottom of claim 74. Handwheel (40) of the reference is movable in a plane substantially parallel to the plane of members (32, 35) as further claimed by claim 74 and is capable of imparting step-by-step motion to member (35) as called for by the claim. 519

For the reasons above stated it is believed that the final rejection of claims 36, 38, 40, 42, 71 and 75 to 79 inclusive is proper.

Examiner

AHG:bm

520 *Plaintiffs' Exhibit 1*

Examiner's Comment Under Rule 137, Paper No. 48, Dated June 25, 1948.

Paper No. 48

UNITED STATES PATENT OFFICE

DEPARTMENT OF COMMERCE

WASHINGTON, D. C.

521 In re application of
Herman Walter Gilbert *et al*
Ser. No. 370,784
Filed: Dec. 19, 1940
For: Sheet Material Spreading Machine

Before The Board of Appeals on Appeal

Examiner's Comment under Rule 137

It has been found that claims 73 and 74, the final rejection of which was explained by the examiner in the 522 paragraph beginning with line 7 from the bottom of page 8 of his statement (Paper No. 45), were inadvertently excluded from the list of finally rejected claims at the beginning and end of the statement and from the copy of the appealed claims. The examiner's statement is therefore supplemented to the extent of adding claims 73 and 74 to the list of finally rejected claims, at the beginning and at the end of the statement, and to the copy of the appealed claims.

Appealed claims 73 and 74 are as follows:

Claim 73. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material and for forming end-folds therein, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and lowering means including a band anchored to the spreading-and-end-fold-forming means, and rotatable members spaced apart and located substantially in the same plane, the band being trained around the members.

Claim 74. A machine for spreading sheet material to form successive superimposed layers of sheet material of 524 substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material and for forming end-folds therein, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in a plane substantially parallel to the direction of movement of the spreading-and-end-fold-forming means, the band being trained around the members, and means for imparting rotation to one of the members, the rotation-imparting 525 means being movable in a plane substantially parallel to said plane of said members for imparting step-by-step motion to said member.

Applicant has pointed out in his brief that the references do not disclose means for cooperation with the limit-defining means for positioning the end-fold-forming means in the direction to form a fold in the direction of movement of the guiding means as required by claims 40 and 42. The examiner desires to point out that the structure preceding the semi-colon in line 11 of claim 40, for example, (as it appears in the examiner's statement) is regarded as a preamble of the claim and since the means referred to by applicant appears in the preamble it is considered to be immaterial whether the references disclose it. However, the patent to Schneider discloses it to be old to provide means (29, 60) for cooperation with cam surface (58) of head (57) which latter is connected to the limit means (47) for carriage (16) and is therefore regarded as a part thereof, for positioning end-fold-forming means (31) in the direction to form a fold in the direction of movement of the guiding means or carriage (16). There would be nothing patentable in substituting 527 this type of end-fold-folder and positioning means therefor for the end-fold-former of Cutter.

Respectfully submitted

Examiner, Division 17

AHG:bm

Decision by Board of Appeals, Paper No. 51, Dated July 28, 1948.

528 Paper No. 51

Appeal No. 16103 RS

Hearing:
July 6, 1948

IN THE UNITED STATES PATENT OFFICE

BEFORE THE BOARD OF APPEALS

Ex parte Herman Walter Gilbert,
Frank H. Dexter and Walter Deichmann

Plaintiffs' Exhibit 1 529

Application for Patent filed December 19, 1940, Serial No. 370,784. Sheet Material Spreading Machine.

Mr. Henry L. Burkitt for appellants.

This is an appeal from the action of the Primary Examiner in finally rejecting claims 36, 38, 40, 42, 71, and 74 to 79, inclusive. The appeal in respect to claim 73 has been withdrawn.

530 The third ground listed in applicants' grounds for appeal alleges error on the part of the Examiner in refusing to enter certain claims. This is not an appealable matter and we will not consider this ground in this decision.

Claims 1, 2, 4 to 19, inclusive, 21 to 30, inclusive, 43 to 47, inclusive, 64 to 70, inclusive, and 72 have been allowed.

Claims 36, 40 and 71 are representative of the claims on appeal and are as follows:

36. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for movement relative to the surface for guiding the sheet material to the surface, and end-fold forming means for 531 the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming means, vertically spaced rotatable means, the band being trained around the vertically spaced members, and means for imparting step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

40. In a machine for laying down upon a surface successive superimposed layers of sheet material of substantially identical extent, wherein are included means for

532 movement relative to the surface for guiding the sheet material to the surface, means for defining limits for the movement of the guiding means, end-fold forming means for the guiding means, and means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means; the combination with the end-fold forming means of means for lifting and lowering the end-fold forming means, the lifting-and-lowering means including a band anchored to the end-fold forming
533 means, vertically spaced rotatable members, the band being trained around the vertically spaced members, and means for engagement with the limit-defining means to impart step-by-step rotation to one of the rotatable members to move the end-fold forming means vertically.

71. A machine for spreading sheet material to form successive superimposed layers of sheet material of substantially identical extent, the machine including means for guiding the sheet material to the position where the layers are to be formed, means for spreading the material and for forming end-folds therein, means for lifting and lowering the spreading-and-end-fold-forming means, the lifting-and-lowering means including a band anchored
534 to the spreading-and-end-fold-forming means, rotatable members spaced apart and located substantially in the same plane, the band being trained around the members, means for imparting rotation to one of the members, the rotation-imparting means being disposed substantially in the same plane as the member, and means movable in a plane substantially parallel to said plane of said member for energizing the rotation-imparting means to impart step-by-step motion to said member.

References relied upon are:

Cutter	1,866,088	July 5, 1932
Schneider	2,203,970	June 11, 1940

The machine which forms the basis of the claims on appeal has been adequately described in the Examiner's statement in the first appeal (Paper No. 26), in the Board's decision on that appeal (Paper No. 30) and again in the Examiner's statement in the present appeal (Paper No. 45). Repetition of a detailed explanation is therefore unnecessary, and reference is made to pages 7-10 of Paper No. 26 for a description of the machine.

Cutter discloses the combination of a carriage 11 adapted to be moved relative to the surface 7, means 17, 20 and 21 for guiding the sheet material to the surface, 536 end-fold forming means comprising the bracket 23 and cloth bars 24 and 25, and means 27 to 38, and 38′ for lifting and lowering the end-fold forming means. The means for lifting and lowering the end-fold forming means is described in lines 21-83, page 2 of the Cutter patent, and is specifically different from the lifting and lowering means recited in the appealed claims.

The Examiner's position is that the specific means for lifting the end-fold forming means recited in the claims lacks invention in view of the Schneider patent.

Schneider relates to the same art as the Cutter patent and the present application, and like them discloses the combination of means comprising a carriage for movement relative to surface 26, the carriage being provided **537** with cloth guiding means 17-22; end-fold forming means 31; and means for lifting and lowering the end-fold forming means.

The end-fold forming means of Schneider comprises plates 31 attached to arms 29 at each side of the carriage. The arms 29 are swingingly mounted on slide heads 28 (Figs. 1, 2, 6 and 7), which slide in guides 27. Sprocket wheels 32 are axially mounted on the side frames of the carriage, beneath the slide heads 28. On a shaft 34 above and in alignment with the sprocket 32 is mounted another sprocket wheel 35. A chain 36 operates over the sprocket wheels, this chain being connected to the slide heads 28 at 37 (Figs. 8, 7, 3 and 1). At the outer end of the shaft 34 a hand wheel 40 is provided (Figs. 8, 5 and 1), provided with a ratchet. By manual operation of the wheel 40 the operator may raise and lower the end-fold forming means 31.

We are in agreement with the Examiner's view that
the substitution of the chain and sprocket lifting means
of Schneider for the screw means 27 of Cutter lacks in-
vention. The modification of the Cutter patent proposed
539 in the Examiner's rejection appears to us to involve no
more than mechanical skill in the substitution of an ele-
ment by a substantially mechanically equivalent element.
It is true that the lifting means of Schneider is manually
operated. The Cutter patent, however, discloses (lines
51-83, page 2) means for the mechanical operation of the
lifting screw as the carriage engages with the limit de-
fining means 38′, and we are of the view that this means
of Cutter could be adapted for use with the sprocket and
chain lifting mechanism of Schneider without exercise of
more than mechanical skill.

Certain claims, of which claim 71 is an example, recite
that the rotatable members around which the band or
540 chain is entrained are located substantially in the same
plane. This is shown in Schneider, Fig. 7 and lines 39-50,
column 2, page 1. These claims also specify that the
rotation-imparting means is in substantially the same
plane as the member which it rotates and that the means
for energizing the rotation-imparting means is movable
in a plane substantially parallel to the plane of the mem-
ber which is rotated. We regard this matter of the
planar relationship of the various members to involve only
considerations of design, convenience and mechanical skill,
and not to involve invention.

We do not find the argument concerning the alleged inoperativeness of the Cutter apparatus to be persuasive. If the detail mentioned in applicants' brief is in fact an obstacle to the operativeness of the device as applicants contend, it is only such an obstacle as could be overcome by ordinary mechanical skill.

We affirm the rejection of claims 36, 38, 71, and 74 through 79 as unpatentable over Cutter in view of Schneider.

Claims 40 and 42 include means for cooperation with the limit-defining means for positioning the end-fold forming means in the direction to form a fold in the direction of movement of the guiding means. The Examiner states that since this limitation appears in the preamble of the claims it is considered to be immaterial whether the references disclose it. We consider this view to be too sweeping, and are of the opinion that the correct rule on the type of claim here being considered is found in *Ex parte* Jepson, 1917 C. D. 62. Claims 40 and 42 stand rejected on the same combination of references as the remaining appealed claims. The Examiner proposes to substitute the end-fold-forming means and positioning means of Schneider for the end-fold-forming means of Cutter. We consider this modification of the Cutter reference to be unnecessary in order to meet the terms of the claims. In lines 58-63, page 3, Cutter states that as the carriage moves away from the catcher 10, the cloth bar 25 moves down into normal position in the brackets 23 and in this half cycle, the formerly inoperative bar 25 now carries the cloth 18 into the opposite catcher 9. We consider this disclosure to meet the means for positioning the end-fold forming means recited in claims 40 and 42. 542 543

We affirm the rejection of claims 40 and 42 as unpatentable over Cutter in view of Schneider for the reasons given in our decision affirming the remaining appealed claims on these references.

The appeal on claim 73 is dismissed.

The decision of the Primary Examiner in finally rejecting claims 36, 38, 40, 42, 71, and 74 through 79 is affirmed.

In event of appeal attention is directed to *In re* Boyce, 32 C. C. P. A. 718; 144 Fed. (2nd) 896; 1944 C. D. 609; 568 O. G. 568; 63 U. S. P. Q. 80 in regard to specifically including in the appeal notice *all* grounds of rejection 545 in the Examiner's statement not expressly overruled by the Board.

F. J. PORTER
Examiner-in-Chief
V. I. RICHARD
Examiner-in-Chief
C. S. DUNCOMBE
Examiner-in-Chief
(Acting)
Board of Appeals

July 28, 1948

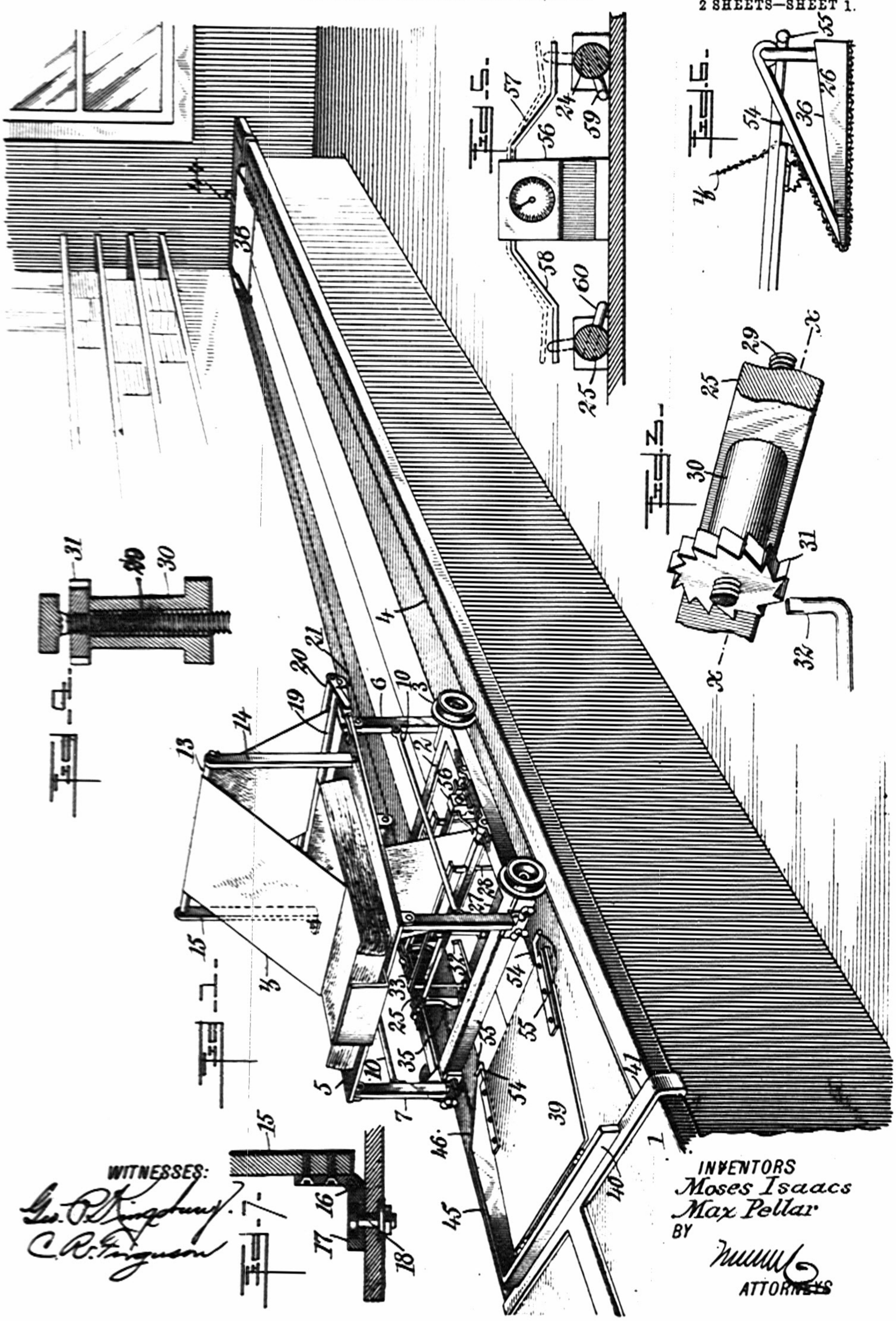
546 Mr. Henry L. Burkitt,
19 West 44th Street,
New York 18, N. Y.

No. 819,548. PATENTED MAY 1, 1906.

M. ISAACS & M. PELLAR.
FABRIC FOLDING MACHINE.

APPLICATION FILED JUNE 30, 1905.

2 SHEETS—SHEET 1.



WITNESSES:
Geo. P. Kingsbury.
C. R. Ferguson

INVENTORS
Moses Isaacs
Max Pellar
BY
Munn & Co.
ATTORNEYS

No. 819,548. PATENTED MAY 1, 1906.

M. ISAACS & M. PELLAR.
FABRIC FOLDING MACHINE.

APPLICATION FILED JUNE 30, 1905.

2 SHEETS—SHEET 2

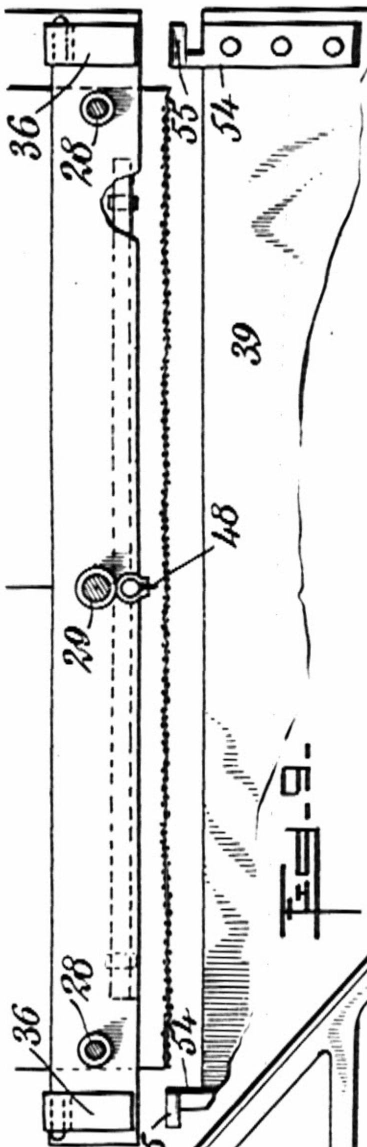


Fig. 9.

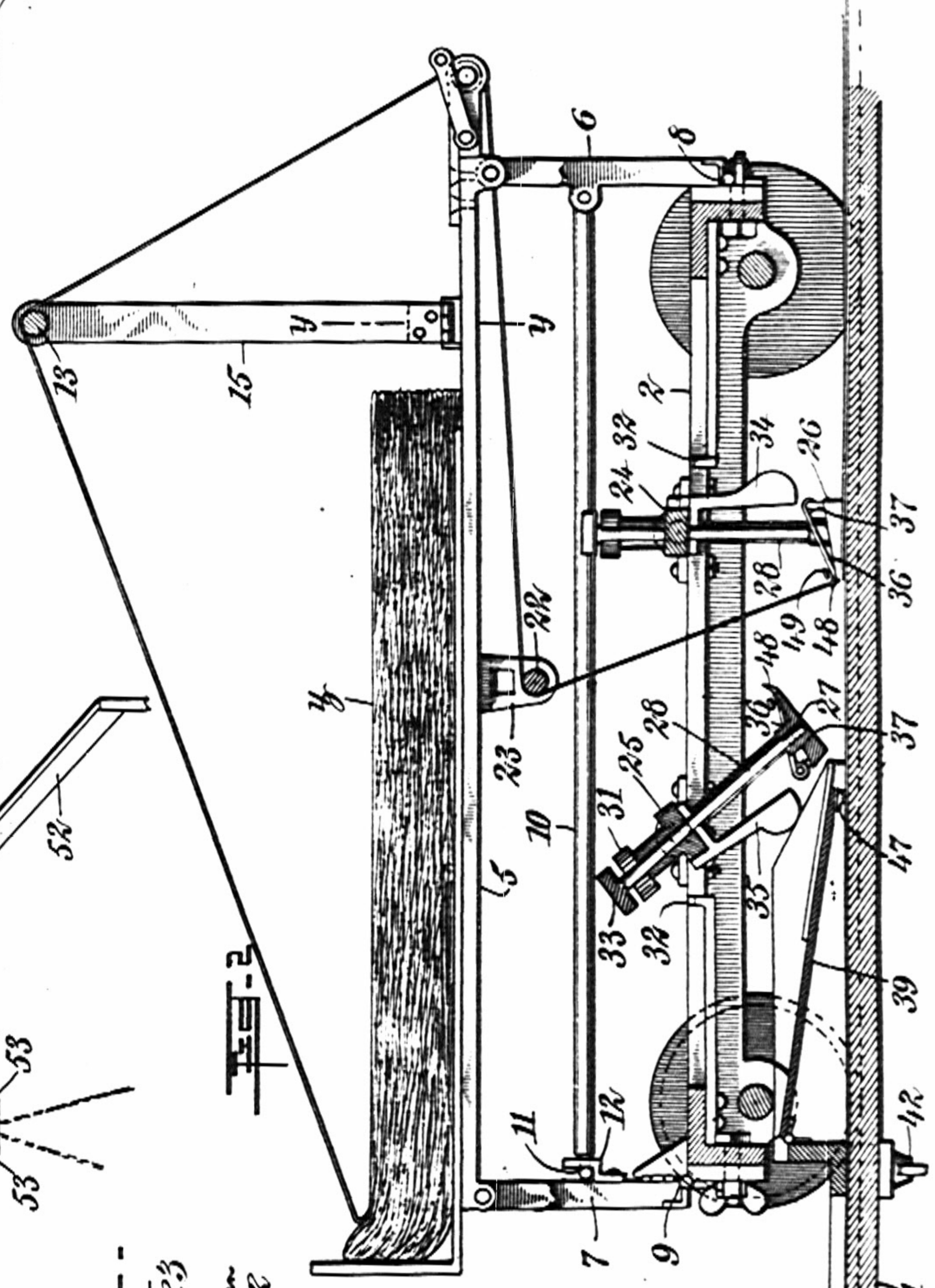


Fig. 2.

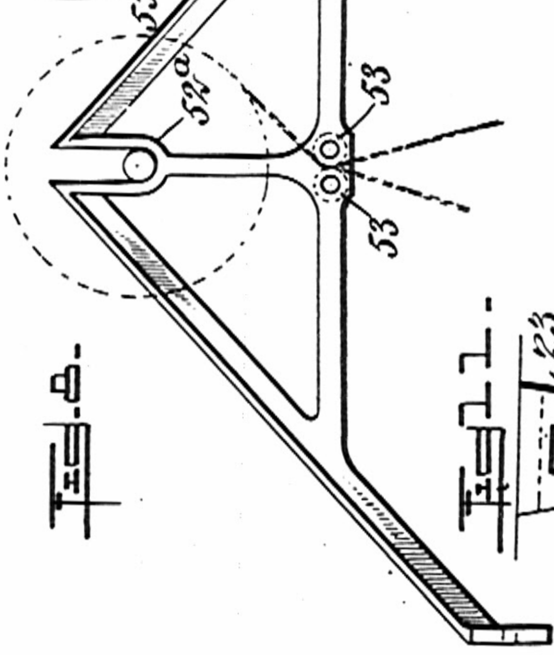


Fig. 8.

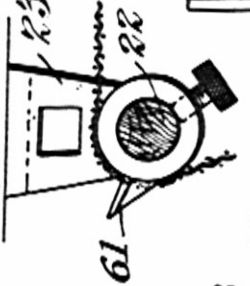


Fig. 11.

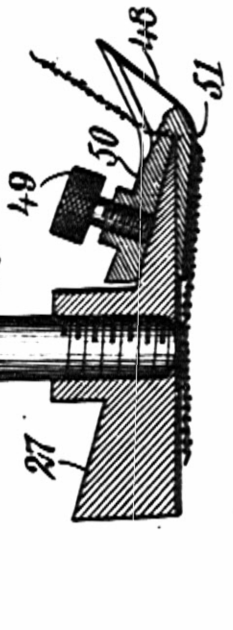


Fig. 10.

WITNESSES:

Geo. P. Kingsbury.

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UNITED STATES PATENT OFFICE.

MOSES ISAACS AND MAX PELLAR, OF NEW YORK, N. Y.

FABRIC-FOLDING MACHINE.

No. 819,548. **Specification of Letters Patent.** **Patented May 1, 1906.**

Application filed June 30, 1905. Serial No. 267,747.

To all whom it may concern:

Be it known that we, Moses Isaacs and Max Pellar, both citizens of the United States, and residents of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Fabric-Folding Machine, of which the following is a full, clear, and exact description.

This invention relates to improvements in machines for folding or forming layers of fabric on a cutting-table.

It is the usual practice preparatory to cutting handkerchiefs or garments to place the goods in several layers on a cutting-table, and as the table is considerably long much time is consumed by a person walking back and forth to manually form the layers and to keep the layers straight or even one upon another.

It is the object of our invention to provide a machine of simple construction by means of which the several layers of fabric may be quickly and evenly placed.

We will describe a fabric-folding machine embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a fabric-folding machine embodying our invention. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is a detail perspective showing means for elevating the carrier-bars. Fig. 4 is a section on the line *x x* of Fig. 3. Fig. 5 shows a recording device that may be employed. Fig. 6 is a detail showing one of the carrier-bars as lifting the gripper-plate. Fig. 7 is a section on the line *y y* of Fig. 2. Fig. 8 shows a modification in the goods-holder. Fig. 9 is a detail plan. Fig. 10 shows a cloth-cutter, and Fig. 11 shows a modification in the cloth-cutter.

Referring to the drawings, 1 designates a cutting-table, movable along the top of which is a carriage comprising a frame 2, supported by wheels 3, which engage with tracks 4 on the table-top. These wheels 3 will preferably be provided with rubber tires. Mounted on the frame 2 is a supplemental table 5, on which the goods to be placed in layers are arranged. The table 5 is supported at one end by uprights 6 and at the other end by uprights 7. The uprights 6 are pivoted or hinged to an end bar of the frame 2, as indicated at 8 in Fig. 2, and the other uprights 7 are also hinged to the opposite end cross-bar of the frame, as indicated at 9. The several uprights have pivotal connection with the table 5, and they are held in upright position when the machine is in operation by means of tie-rods 10, here shown as pivotally connected to the uprights 6 and having hook portions 11 for engaging in keepers 12, attached to the uprights 7. The object of this construction is to permit the table 5 to be swung downward close to the frame 2, so that a bolt of goods may be slid thereon—that is, without requiring any great manual effort to place the heavy material on the table. Of course when the table 5 is swung downward the rods 10 must be released from the keepers 12.

The goods *z* pass from the supplemental table over a bar or roller 13, supported by standards 14 15 on the table 5. The standard 14 has a reduced lower end for engaging in a hole formed in the table 5, and the upper end of said standard 14 is detachably connected to the roller or bar 13. The other standard 15 has a hinged connection 16 with a block 17, arranged to swing on a bolt 18, passing through the table 5. By this arrangement after lifting out the standard 14 the standards carrying the roller or bar 13 may be swung over to one side of the table and turned lengthwise thereof when the device is not in use. From the roller or bar 13 the fabric passes over a roller 19 on one end of the table 5, and engaging against the outer side of the fabric is a tension-roller 20, mounted on arms 21, having swinging connection with said table. From the roller 19 the fabric extends over a guide-roller 22, supported by hangers 23 on the under side of the table 5.

We will now describe the means for spreading the fabric upon the cutting-table as the machine moves back and forth. This means comprises a pair of rock-shafts 24 25, having bearings in boxes on the side members of the frame 2 and carried by these bars 24 25 are fabric-carrying bars 26 27, the adjacent edges of the opposite bars being somewhat sharpened—in other words, the said bars are wedge-shaped in cross-section. The bars are connected to stem portions 28, which move through openings in the rock-bars 24 25, and the central stem of each bar has a threaded portion 29, movable through a sleeve 30 on its rocking bar. These threaded portions engage with ratchet-wheels 31, designed at the end of movement of the carriage to be engaged by fingers or pawls 32 for imparting rotary movement to the ratchet-wheels, thus drawing upward the carrier-bars to accommodate them to the growing thicknesses of material spread upon the cutting-table. The carrier-bars of each rocking bar are moved simultaneously, because the upper ends of the stems are connected by a cross-bar 33. Connected to one end of the rocking bar 24 is a downwardly-extended arm 34, having a rounded end, and a similar arm 35 extends downward from one end of the rocking bar 25, and mounted on each carrier-bar is an inclined cam-plate 36, the outer end of which is supported by a pin 37. The object of this construction will hereinafter appear.

Arranged at or near the ends of the cutting-table are fabric-clamping devices, here shown as consisting of plates 38 39, these plates being mounted to swing vertically on cross-bars 40, attached to clamping-bars 41, the ends of said bars 41 being turned downward and inward to engage over the edge of the cutting-table, as clearly indicated in the drawings, and they are held as adjusted by clamping-nuts 42, and outward of each bar 41 is an upwardly-extended arm 43, provided with a buffer 44, of rubber or other suitable material, against which the carriage may strike upon reaching the ends of the cutting-table. Arranged at one side of each clamping-plate 38 or 39 is a board 45, having an incline 46 at its upper end designed to be engaged by the depending arms 34 35, and on the under side of each clamping-plate are toothed jaw-plates 47, designed to engage with the fabric to hold the same on the cutting-table while the carriage is moving away from the clamping-plate. These toothed plates 47 are preferably semicircular, as indicated in Fig. 2, so as to insure the engagement of the teeth with the fabric as the thickness of the layers increases.

In connection with the carrier-bars we may employ one or more cutters for slitting the goods lengthwise as the carriage moves along. These cutters, as clearly indicated in Fig. 10, consist of upwardly-curved blades 48, sharpened on their upper edge and secured as adjusted on the carrier-bars by clamping-screws 49, which pass through upper plates 50 and engage with the carrier-bars. The cutting-blades are also provided with bottom plates 51 for engaging against the under side of the carrier-bars.

Instead of placing the goods flatwise on a table, such as the table 5, we may employ when the goods are in a roll a frame consisting of arms 52, designed to be engaged with the frame 2, and of course at such time the supplemental table with its supporting devices will be removed. These arms 52 are provided with bearings 52^a for rollers on which the goods or fabric may be wound, and the fabric will pass over guide-rollers 53, supported by cross-bars on the frame or arms 52.

Extended forward from each clamping-plate 38 39 are fingers 54, having outwardly-extended portions 55, designed to engage upon the inclines 36.

In the operation, assuming the carriage to be moving from the right-hand end of the cutting-table toward the left-hand end, the goods or fabric will be clamped by the plate 38, and as the layer engages underneath the carrier-bar 26 it will be evenly spread upon the table, and the blade 48, mounted on said bar 26, will sever the fabric longitudinally. When the machine reaches the left-hand end of the cutting-table, the arm 35, depending from the rocking bar 25, will engage upon the incline 46, swinging the carrier-bar 27 upward and engaging its ratchet-wheel 31 with the finger 32, thus imparting a rotary movement to the ratchet-wheel and drawing the bar slightly upward. As the carriage continues the inclined plates 36 on the bar 26 will pass into engagement or against the under sides of the finger portions 55, swinging the plate 39 upward, permitting the fabric to be carried underneath the plate by means of the said bar 26. When the finger portions 55 pass over the higher ends of the plates 36, the plate 39 will swing downward to engage the clutching devices 47 with the goods preparatory to the return movement of the carriage. Upon the return movement the fabric of course will be engaged by the carrier-bar 27 and the parts will be reversed, as above mentioned, at the right-hand end of the table.

As a means for indicating the number of yards or the number of layers of fabric placed upon the cutting-table, we may mount upon the carriage a recording device 56 of any suitable construction and from the working parts of which arms 57 58 extend outward in opposite directions, these arms being designed for engagement with pins 59 60 on the rocking bars 24 25. These pins not only serve to operate the rocking device, but by engaging with the side members of the frame 2 limit the rocking motion of the rocking bars. In other words, they would serve to hold said rock-bars in such position as to support the bars 26 27 in contact with the fabric.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a fabric-folding machine, a table, a carriage movable along the table, carrier-bars supported by the carriage, and means for automatically shifting the carrier-bars upward.

2. In a fabric-folding machine, a table, a wheel-mounted carriage mounted on the table, rocking bars on the carriage, carrier-bars supported by the rocking bars and automatic means for shifting said carrier-bars.

3. In a fabric-folding machine, a wheel-mounted carriage, fabric-engaging devices on the carriage, swinging uprights on the carriage, a table having pivotal connection with said uprights, and means for holding the uprights in vertical position.

4. In a fabric-folding machine, a table, a carriage movable on the table, fabric-engaging devices on the carriage, uprights having swinging connection with the carriage, a table pivotally connected to the uprights, standards on the table, a roller supported by the standards, a roller at one end of the table, and a tension-roller coacting with the last-named roller.

5. In a fabric-folding machine, a table, a carriage movable on the table, fabric-clamping devices at the ends of the table and mounted to swing vertically, carrier-bars mounted on the carriage, and devices on the carrier-bars for swinging the clamping-plates upward.

6. A fabric-folding machine comprising a table, a carriage movable on the table, rocking bars on the carriage, carrier-bars supported by the rocking bars, arms extended downward from the rocking bars, clamping-plates mounted to swing at the ends of the table, and inclined surfaces adjacent to said clamping-plates for engaging with said arms.

7. In a fabric-folding machine, a table, a carriage movable on the table, rocking bars on the carriage, carrier-bars, stems extended upward from the carrier-bars through the rocking bars, connections between the several stems of each set, one of the stems of each set being threaded, an interiorly-threaded ratchet-wheel engaging with each threaded stem, and means for rotating the ratchet-wheel as the carriage approaches its extreme positions.

8. In a fabric-folding machine, a table, a carriage movable on the table, carrier-bars having swinging connection with the carriage, and cutting-blades detachably connected to the carrier-bars.

9. In a fabric-folding machine, a table, a carriage movable on the table, fabric-engaging devices on the carriage, a table on the carriage, uprights on said last-named table, one of the uprights having detachable connection with the table, the other of said uprights having swinging and rotary connection with the table, and a roller supported by the uprights.

10. In a fabric-folding machine, a table, a carriage movable on the table, carrier-bars having swinging connection with the carriage, cam-plates on said bars, vertically-swinging clamping-plates at the ends of the table, and fingers on said swinging plates for engaging with the cam-plates on the carrier-bars.

11. In a fabric-folding machine, a table, fabric-clamping devices mounted to swing at the ends of the table, a carriage movable on the table, carrier-bars mounted to swing on the carriage, devices on the carrier-bars for swinging the said clamping-plates upward, a table on the carriage for supporting the fabric, and a guide-roller at the under side of said table supported by the carriage over which the fabric passes to the carrier-bars.

12. In a fabric-folding machine, a table, a carriage movable on the table, rock-bars supported by the carriage, carrier-bars mounted on the rock-bars, arms depending from the rock-bars and having cam-shaped ends, fabric-clamping devices at the ends of the table, and inclines adjacent to said clamping devices and adapted to be engaged by the cam-shaped ends of the arms to rock the rocking bars.

13. In a fabric-folding machine, a table, a carriage movable on the table, rocking bars on the carriage, carrier-bars supported by the rocking bars, pins extended from the rocking bars, a recording device on the carriage, and actuating devices for the recording device operated by said pins.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

MOSES ISAACS.
MAX PELLAR.

Witnesses:
JNO. M. RITTER,
C. R. FERGUSON.

C. J. SUSSMAN & T. A. HILL.
FABRIC LAYING MACHINE.
APPLICATION FILED JAN. 25, 1917.

1,257,421. Patented Feb. 26, 1918.

4 SHEETS—SHEET 1.

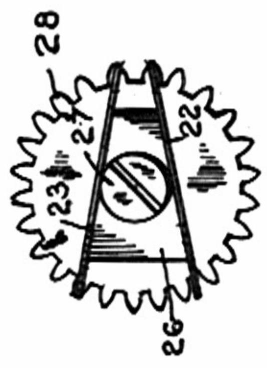

Fig-6

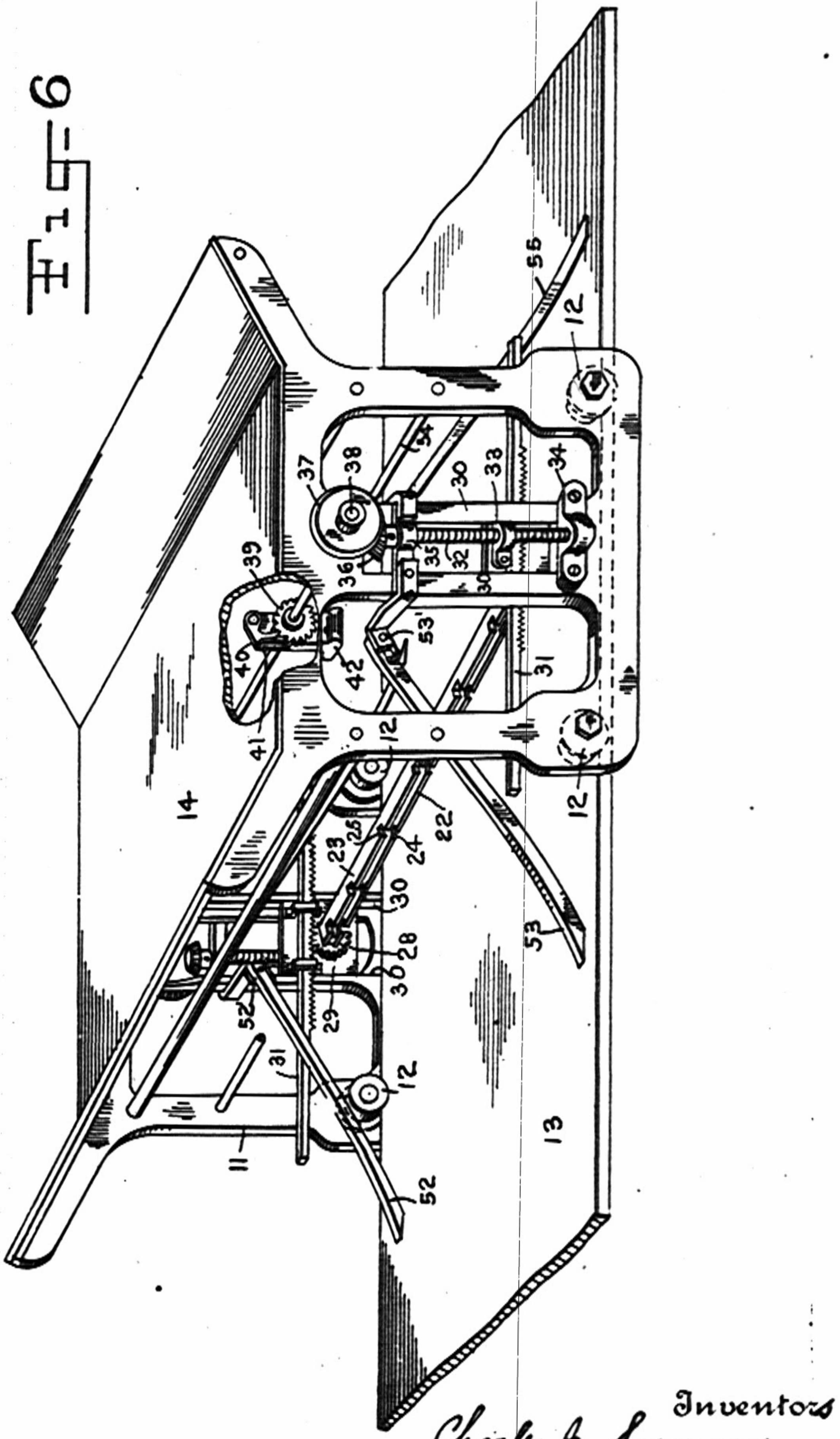

Fig-1

Inventors
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Thomas A. Hill

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C. J. SUSSMAN & T. A. HILL.
FABRIC LAYING MACHINE.
APPLICATION FILED JAN. 25, 1917.

1,257,421.

Patented Feb. 26, 1918.
4 SHEETS—SHEET 2.

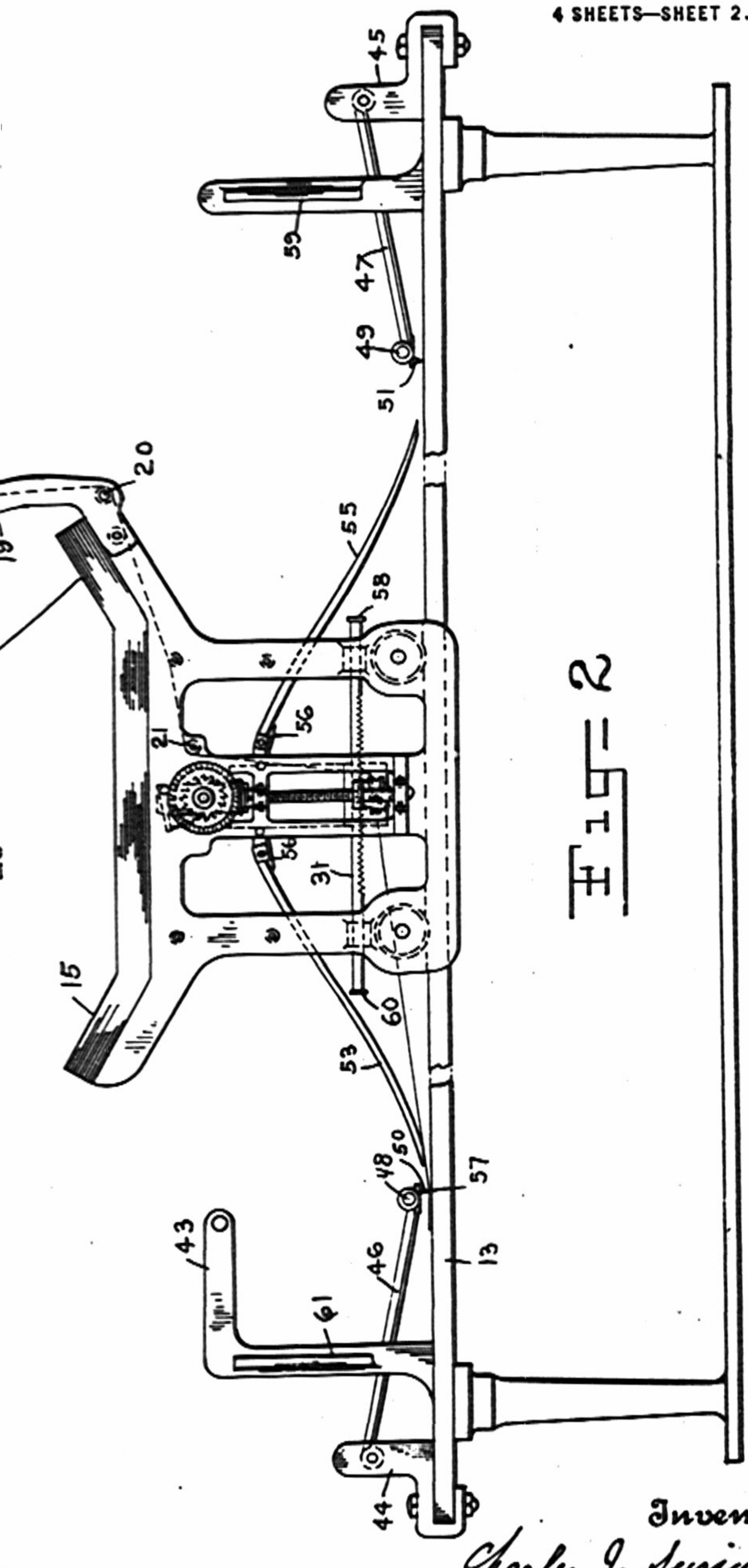

Fig. 2

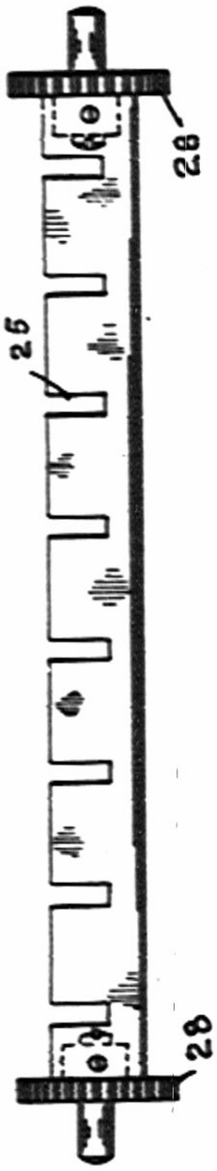

Fig. 3

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FABRIC LAYING MACHINE.

APPLICATION FILED JAN. 25, 1917.

1,257,421.

Patented Feb. 26, 1918.

4 SHEETS—SHEET 3.

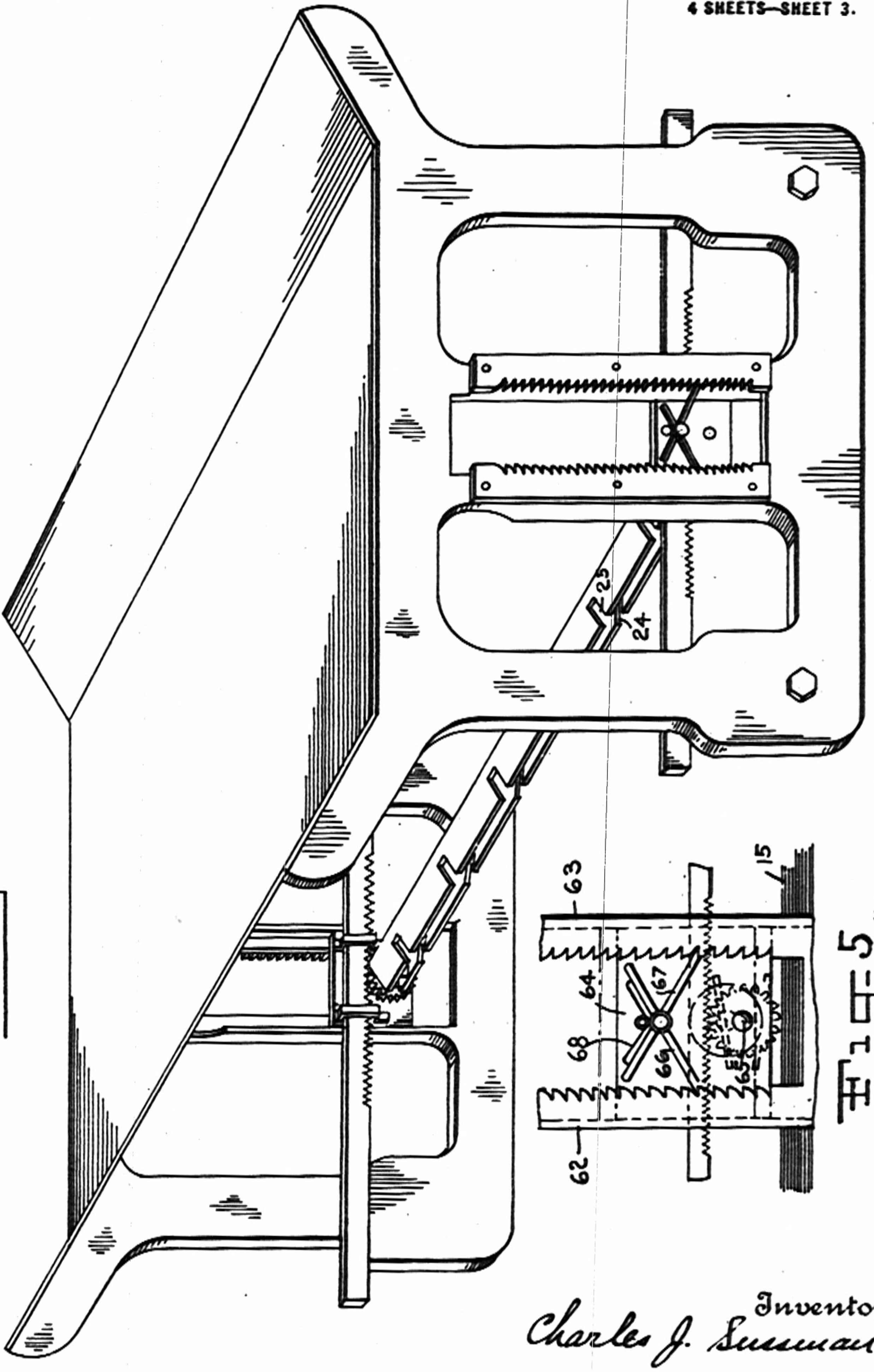

Fig-4

Fig-5

Inventors

Charles J. Sussman

Thomas A. Hill

C. J. SUSSMAN & T. A. HILL.
FABRIC LAYING MACHINE.
APPLICATION FILED JAN. 25, 1917.

1,257,421.

Patented Feb. 26, 1918.
4 SHEETS—SHEET 4.

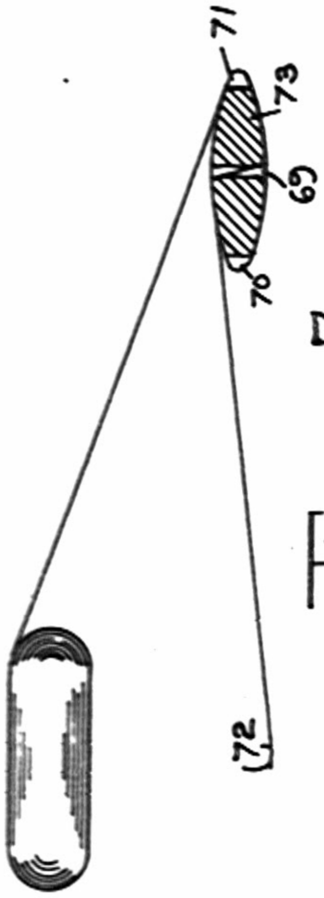

Fig-7

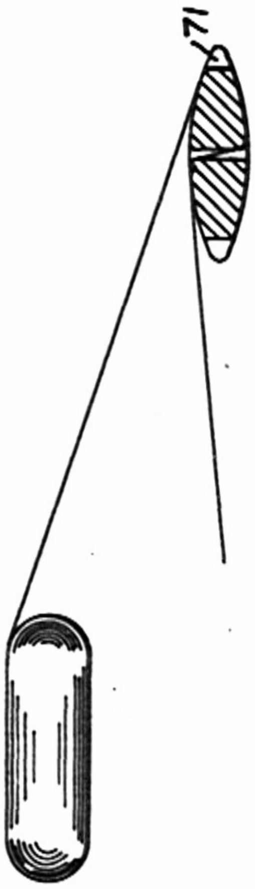

Fig-9

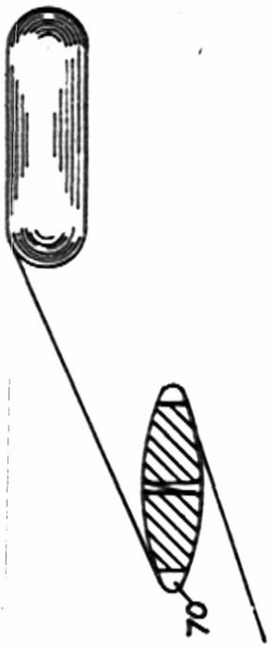

Fig-8

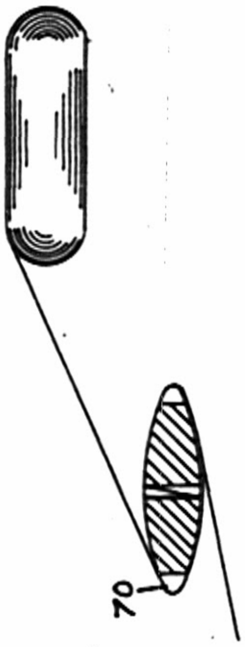

Fig-10

Inventors.
Charles J. Sussman
Thomas A. Hill

UNITED STATES PATENT OFFICE.

CHARLES J. SUSSMAN AND THOMAS A. HILL, OF BROOKLYN, NEW YORK.

FABRIC-LAYING MACHINE.

1,257,421. Specification of Letters Patent. Patented Feb. 26, 1918.

Application filed January 25, 1917. Serial No. 144,468.

To all whom it may concern:

Be it known that we, Charles J. Sussman and Thomas A. Hill, citizens of the United States, both residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fabric-Laying Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

Our invention relates to improvements in cloth laying or folding machines, and more particularly has reference to a type of machine adapted for laying successive layers of fabric in a pile conveniently for cutting upon a table.

In the accompanying drawings we have illustrated in Figure 1 in perspective a machine disclosing an embodiment of our invention, parts broken away. Fig. 2 is a side elevation of the same upon a table partly broken away, showing certain coöperating parts upon the table. Fig. 3 is a side view of the folding bar. Fig. 4 is an enlarged perspective view and modified form of folding bar lifting mechanism and Fig. 5 a detail thereof. Fig. 6 an end view of the folding bar, and Figs. 7 to 10 inclusive are diagrammatic illustrations of a modified form of folding bar showing the different positions of the fabric as the same is folded.

Referring now more particularly to Fig. 1 it will be observed that any suitable form of carriage frame such as 11 may be provided with suitable rollers such as 12 adapted to ride upon the edge of a table such as 13. This carriage is preferably provided at the top with a table or platform 14 upon which the goods may be laid as indicated at 15 in Fig. 2. A bracket such as 16 is also preferably provided with rollers such as 17, 18, 19 and 20 over which the fabric is drawn as shown in dotted outline in Fig. 2 and from which it passes over the roller 21 down through the folding bar shown to better advantage in Figs. 1, 3 and 6. This folding bar preferably comprises two bars such as 22—23 provided with cut-away portions such as 24—25 and secured at the ends by a suitable separating member such as 26 preferably a further distance at one side than the other as shown to advantage in Fig. 6. A bolt or other suitable securing means such as 27 passes through the heads such as 26 and secures thereto a pinion such as 28 which is rotatably mounted within a block such as 29 adapted to slide within the guides 30. The pinion 28 is also preferably engaged by the rack 31 so that by shifting the rack right or left looking at Fig. 1 the pinion 28 and the folding bars 22—23 is rotated thereby, all of said parts being mounted to be carried by the carriage frame 11. The block 29 is adapted to be raised and lowered within the guides 30 by the worm 32 which engages the threaded socket 33 attached to said block, the other end of the same being seated in the block 34 and the opposite extremity being held by any suitable means such as the bracket 35. At the upper end of the worm 32 is preferably secured the pinion 36 which engages the pinion 37 upon the shaft 38, said shaft also being provided with a ratchet wheel 39 adapted to be engaged by the pawl 40 which is normally retained in engagement therewith by any suitable means such as the spring 41. The pawl 40 is in turn pivotally mounted upon the block 42 which is adapted to rotate in one direction upon the shaft 38 but which when rotated in the opposite direction causes the pawl 40 to engage the ratchet wheel 39 thereby turning said shaft 38 and the pinion 37 secured thereto, and this in turn rotates the pinion 36, and the worm 32 which lifts the block 29 and the bar 22—23 rotatably secured therein, it being understood that said mechanism is substantially the same at both sides of the machine.

At one end of the table 13, shown to better advantage in Fig. 2, is mounted a suitable bracket such as 43 the inner end of which is in a position to strike the block 42 when the carriage 11 is pushed to the leftward extremity of the table, thus swinging the block 42 lefthandedly and thereby raising the folding bar 22—23 a predetermined amount. In this way each time the carriage reaches the left end of the table, the folding bar is lifted sufficiently to accommodate the growing thickness of the pile of cloth being laid and folded upon the table.

The applicants make no claim to this automatic means for raising the folding bar as the pile of cloth accumulates, the same being shown in substantially the same details in an earlier U. S. Letters Patent granted to F. H. Dobeck, No. 481,933 on the 6th day of September, 1892.

At opposite ends of the table are preferably secured suitable standards or supports such as 44—45 upon which are pivoted suit-

AVAILABLE

able arms such as 46—47 carrying cross-bars 48—49 provided with pins such as 50—51 spaced apart so as to engage through the openings 24—25.

52 to 55 inclusive indicate bearing bars pivotally mounted upon the machine as indicated at 52′—53′ and 56 indicates small stops or projections adapted to maintain the bearing bars just clear of the table. As the carriage is thrown to one side of the table, say leftwardly, the bar 48 rides upwardly on the bearings 52—53 until the ends of the rod 48 pass beyond the pivotal bearings 52′—53′. Then the bar 48 drops and the points 50 thereof pass through the cut-away portions 24—25 in the folding bar and thus pin and hold the fabric as shown at 57. The carriage may now be pushed rightwardly looking at Fig. 2, and when the end 58 of the rack 31 strikes the upright 59 it rotates the folding bar 180° thereby presenting the cut-away portions 24—25 thereof in position to receive the pins 51 of the bar 49 which in the meantime has passed upwardly on the bearing bars 54—55 and when the carriage has traveled sufficiently far rightwardly said bar is released and engages the fabric as before stated. The carriage may now be moved leftwardly again and when the other end 60 of the rack engages the side 61 of the bracket 43 the folding bar is again rotated back 180°, thus presenting its cut-away portions to the teeth 50 of the bar 48 which penetrate the fabric as aforesaid and so on the carriage is shifted back and forth along the table allowing the cloth to be piled and folded automatically until the entire bolt, roll or pile such as 15 has been completely folded and laid for cutting.

In the modification shown in Figs. 4 and 5 we have illustrated a form of device for automatically raising the folding bar. 62—63 indicate a pair of parallel tooth members at one side between which the block 64 may be lifted, said block carrying the folding bar upon a pin such as 65 or by other suitable means. As the cloth piles up, the folding bar is lifted thereby. The block 64, is provided with a pair of engaging pawls 66—67 which are normally projected by any suitable means such as the spring 68, and said pawls engage the teeth in the parallel bars 62—63, thus the folding bar is automatically secured in elevated position as the cloth piles up.

In the modification shown in Figs. 7 to 10 inclusive the folding bar is shown as an integral bar substantially elliptical in cross section provided with a central longitudinally extending cut-away portion 69 and cut-away portions 70—71 to allow for the passage of the pins 50—51. In starting, the fabric is pinned at 72 and when the bar 73 reaches the right extremity of the table the pins drop through the cut-away portions 71 holding the goods firmly at that point. The bar may now be rotated and by traveling leftwardly presents the goods in position to be pinned through the cut-away portions 70. By now rotating the bar again in the reverse direction the goods will be presented in position to receive the pins through the cut-away portions 71 and by again rotating the bar 360° and traveling leftwardly the cut-away portions will again be presented at the left of the machine to receive the pins for holding the goods. Thus it will be seen that a single bar may be substituted and of course the cut-away portion 69 will preferably be sufficiently rounded at the corners to prevent undue friction or binding upon the fabric.

Of course it will be understood that various modifications may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

We claim:

In combination with a fabric laying machine, a support, a carriage adapted to be moved along said support, grippers upon said support, a fabric folding member beneath said carriage adapted to be rotated upon its longitudinal axis and having pinions at opposite ends, vertically movable bearings for said member, racks slidably secured within said bearings and engaging said pinions, means upon said support at each side of said carriage adapted to engage said rack when said carriage is moved a predetermined distance whereby said member is partially rotated, and means upon said support and in combination with said bearing for lifting the same a predetermined amount each time said carriage is moved a predetermined distance in one direction upon said support.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

CHARLES J. SUSSMAN.
THOMAS A. HILL.

Witnesses:
ETHEL GARDNER,
ANNA F. DUFFY.

M. ISAACS.

CLOTH LAYING MACHINE.

APPLICATION FILED OCT. 8, 1918.

1,338,570. **Patented Apr. 27, 1920.**

2 SHEETS—SHEET 1.

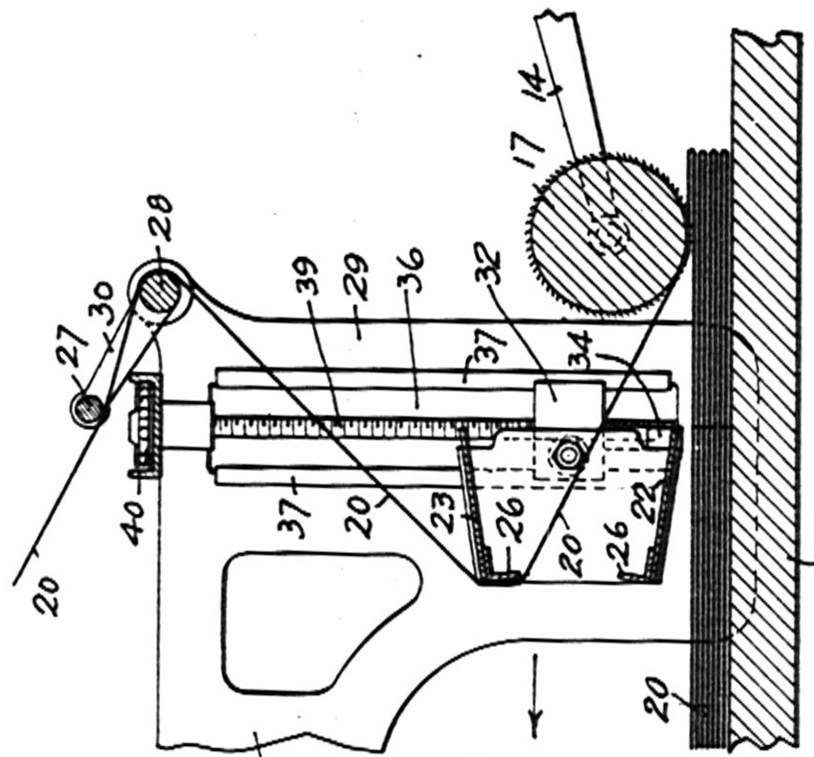

Fig. 3.

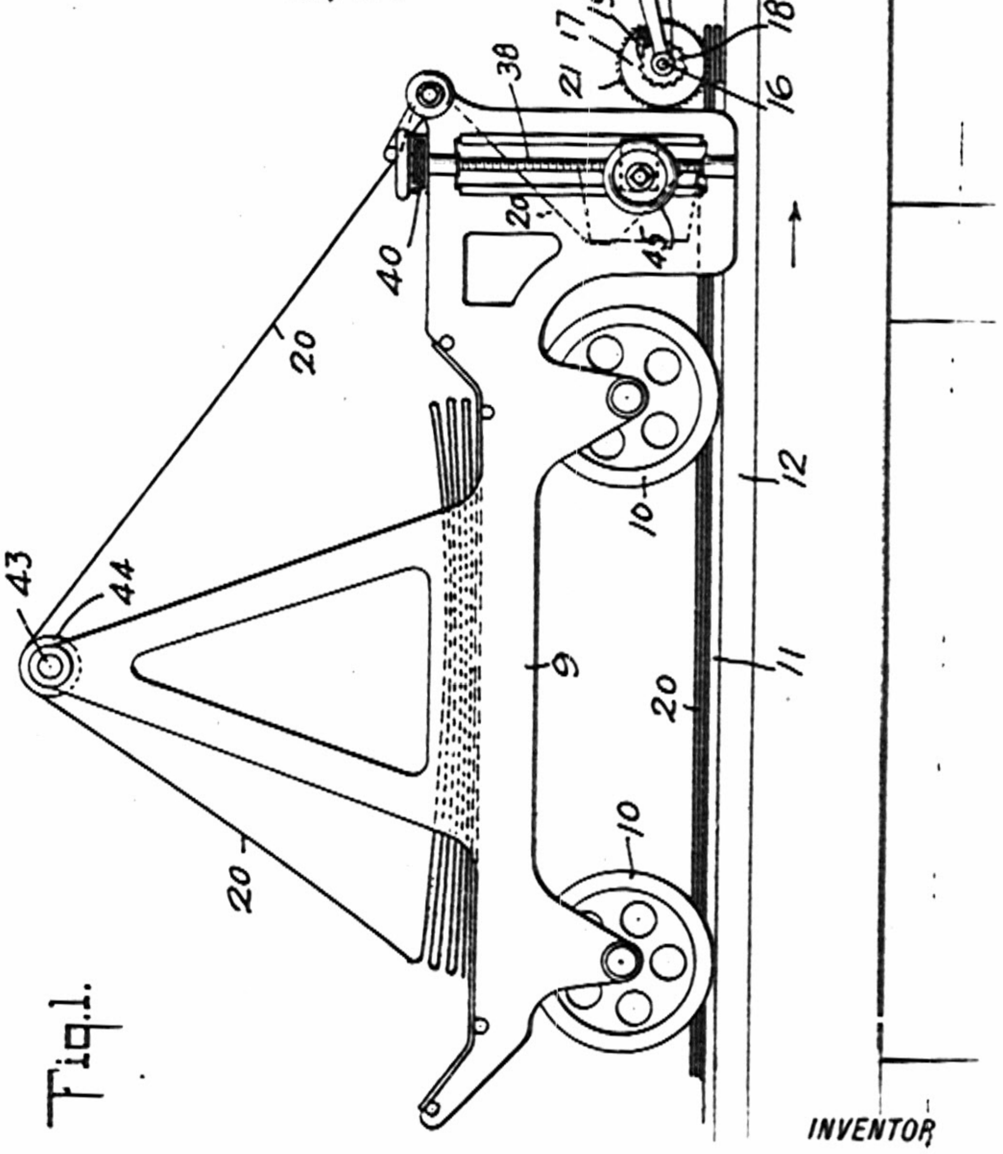

Fig. 1.

WITNESSES

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INVENTOR

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CLOTH LAYING MACHINE.

APPLICATION FILED OCT. 8, 1918.

1,338,570.

Patented Apr. 27, 1920.

2 SHEETS—SHEET 2.

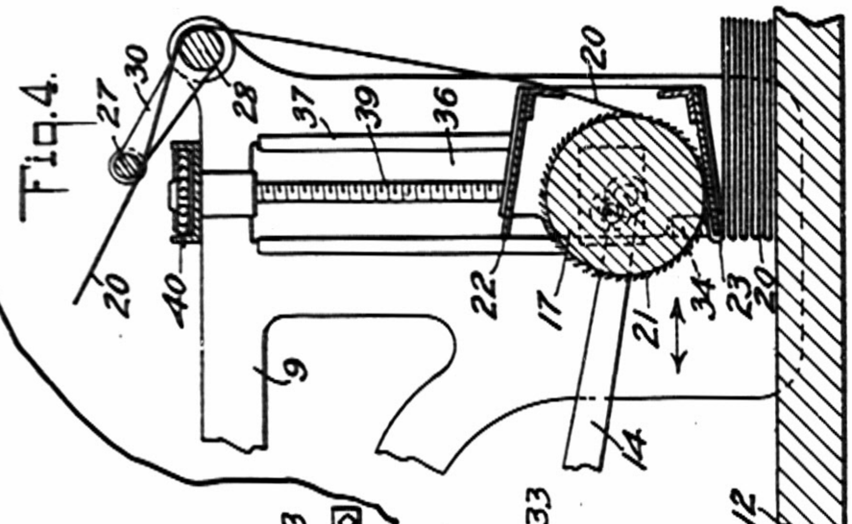

Fig. 4.

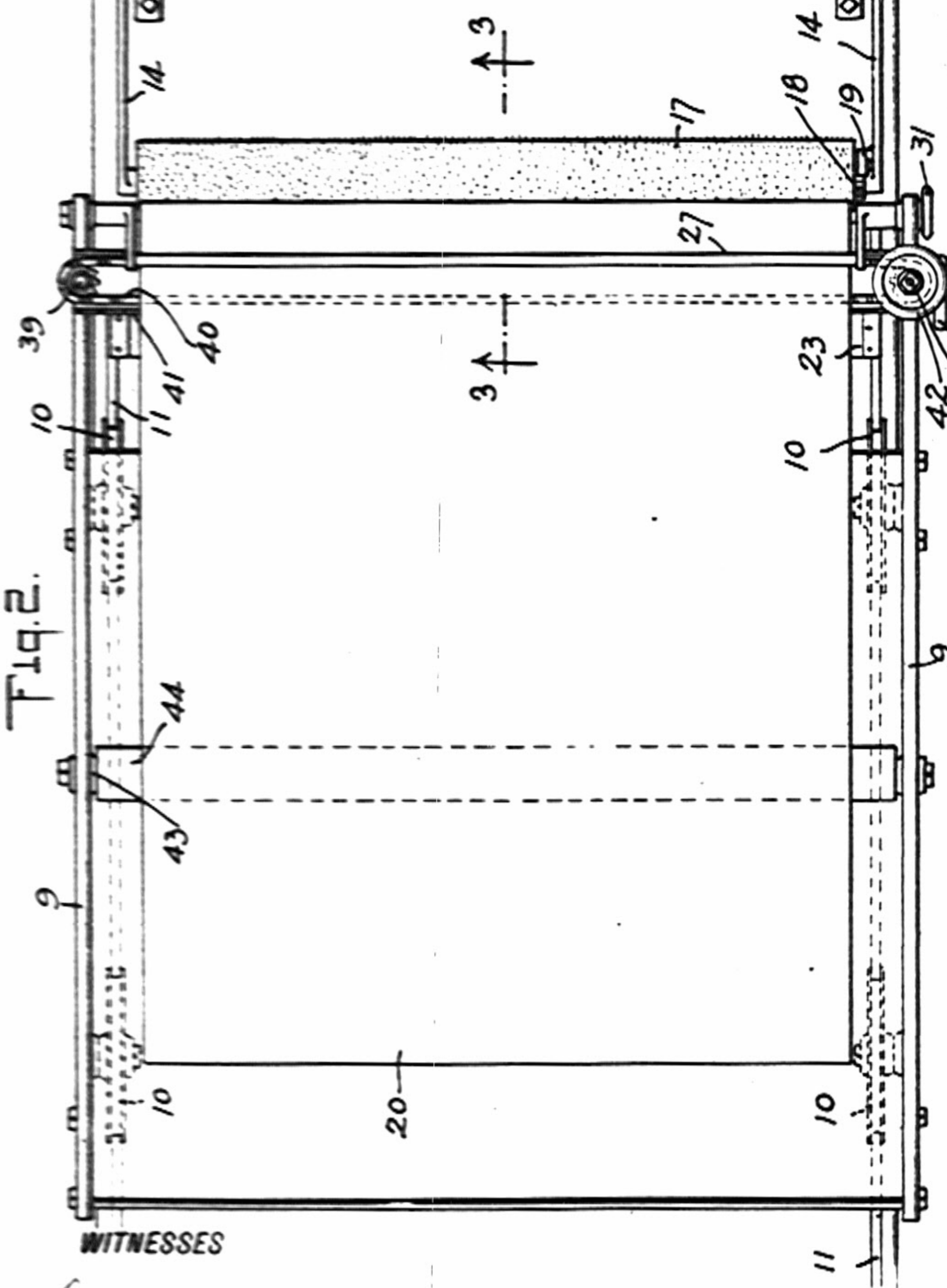

Fig. 2.

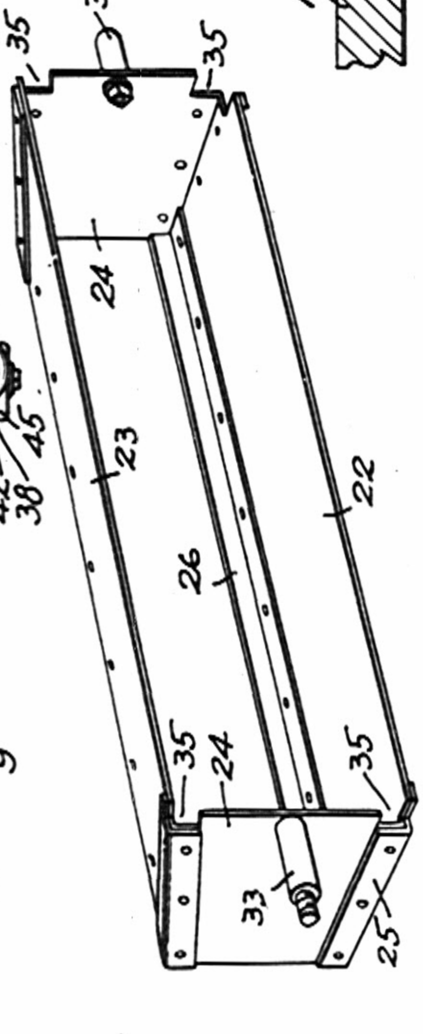

Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

MOSES ISAACS, OF NEW YORK, N. Y.

CLOTH-LAYING MACHINE.

1,338,570. Specification of Letters Patent. **Patented Apr. 27, 1920.**

Application filed October 8, 1918. Serial No. 257,362.

To all whom it may concern:

Be it known that I, Moses Isaacs, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Cloth-Laying Machine, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to simplify the operation of the machine; to reduce the cost of construction of the machine; and to insure accuracy in the delivery of cloth from the machine when piling the same on a cutting table.

Drawings.

Figure 1 is a side elevation of a cutting table, a machine for laying cloth constructed and arranged in accordance with the present invention, and a fragment of a pile in the process of being set or laid with a detent mechanism for holding the cloth at one end of said pile;

Fig. 2 is a top plan view of the same;

Fig. 3 is a detail view on an enlarged scale, showing in section, a fragment of the table, a portion of the machine, and a portion of the detent, the section being taken as on the line 3—3 in Fig. 2;

Fig. 4 is a similar view showing the spread plates and frame formed thereby in the reverse position and as delivering the cloth under the detent roller at the relatively opposite end of the cutting table;

Fig. 5 is a detail view in perspective, showing the delivery frame for delivering the cloth for the detents at the opposite ends of the pile.

Description.

Machines of the character shown in the accompanying drawings are employed principally for piling cloth on the cutting tables in factories. These tables provide a piling space often fifty, sixty, or more feet in length, and whole pieces or rolls of cloth are spread or piled preparatory to marking and cutting.

The present machine is used in a manner similar to that shown in United States Letters Patent No. 819,548, for cloth laying machines, granted to me on the 1st day of May, 1906.

As seen in the accompanying drawings, a carriage 9 is provided with carrying wheels 10, which are guided to move over tracks 11 disposed adjacent the opposite edges of the cutting table 12. Mounted on the table 12, adjacent the opposite ends of the tracks 11, are standards 13, to which are pivotally connected the swinging arms 14 having bearings 15 for a shaft 16 on which the detent roller 17 is mounted. The roller 17 extends across the table 12, and adjacent the ends of the tracks 11, to which the said roller is disposed in substantially perpendicular relation. The roller is suitably weighted and is enveloped by a cover having inclined brush-like tufts, such as are found on nap-raising machines. The tufts or papillæ are inclined in the direction of rotation of the roller 17. The roller in service moves in one direction only. To prevent the roller from rotating in the reverse direction, it is provided with a ratchet wheel 18, the teeth whereof are engaged by a pawl 19 mounted on one of the arms 14, as seen best in Fig. 2 of the drawings. The pawl and ratchet are constructed and arranged so that the under portion of the periphery of the roller moves toward the standards 13, or toward the ends of the lay of cloth 20. This arrangement is employed to retain the cloth when the same is delivered under the roller 17 at the ends of the lay. The retractive pull of the cloth after having been delivered under said roller is restrained or rendered non-effective by the tufts 21 engaging the cloth.

The cloth is extended under the roller 17 by the thin delivery plates 22 and 23, respectively, and at the opposite ends of the lay of cloth 20. The plates 22 and 23 are held in position by the side members 24, said sides and plates being structurally united by angle or corner irons 25 and 26. The irons 26 form sliding surfaces at the back of the frame and at the rear edges of the plates 22 and 23, said surfaces avoiding imposing a frictional hold on the cloth 20.

As shown best in Fig. 3 of the drawings, the cloth 20 is extended between the tension bars 27 and 28, the latter having bearings in the extended frame 29 of the carriage 9. The bars 27 and 28 are structurally connected by the link arms 30. The angular arrangement of the bars 27 and 28 is determined by rotating the bars 28, which is manually accomplished by rotating the hand wheel 31 at the side of the machine.

From the bar 28, the cloth 20 is passed between the plates 22 and 23 and between the irons 26. The plates 22 and 23 are rearwardly inclined to the irons 26 and in service present only the delivery edge of said plates in juxtaposed relation to the lay of cloth 20. The frame formed by the plates 22 and 23, and sides 24, is pivotally mounted on bearing blocks 32, and by means of the trunnions 33 extended outward from the sides 24 for mounting in bearings formed in said blocks 32. The trunnions 33, as seen best in Fig. 4 of the drawings, are mounted adjacent the forward or flared edge of the frame. The frame is partially supported by stop blocks 34, the same being extensions of the blocks 32.

As shown best in Fig. 4 of the drawings, the frame or the plates 22 and 23, and sides 24 thereof, are cut away to form recesses 35, within which the said blocks 34 rest when the frame is extended horizontally in either direction relative to the extended frame 29. The bearing blocks 32 are slidably mounted in the sides of the frame 29 and in the vertical openings 36 therein. The edges of the blocks 32 are preferably grooved to engage tracks 37, forming the edges of said openings 36. The blocks 32 are elevated and depressed in the openings 36 by means of feed screws 38 and 39, said screws being provided with a screw thread to engage tapped perforations in the blocks 33. Simultaneous and uniform rotation of the screws 38 and 39 is secured by operatively connecting the same by a sprocket chain 40, to support which a channel 41 is attached to and extended between the sides of the frame 29. The screw 38 has a hand wheel 42, by which it is rotated, a similar rotation being transmitted to the screw 39 by the chain 40. The cloth distributed by the machine may be arranged in folds on the platform of the carriage 9, as shown in Fig. 1 of the drawings, or may be mounted rotatatively on the shaft 43. In the latter event, the cloth 20 is not guided by the idler 44, which is employed only when the cloth is disposed on the carriage in the folded condition.

The operation of the machine is as follows: The cloth 20 is folded over the idler 44, between the bars 27 and 28, between the framing irons 26 and the plates 22 and 23, and the end is disposed under the roller 17 on the right-hand end of the lay, the same being lifted manually to introduce the said end. The operator by means of the hand wheel 45 then adjusts the frame and plates 22 and 23, so that said frame and plates extend toward the left, or the direction in which the carriage 9 is first to be moved, or so that the flare of the plates 22 and 23 is toward the similar roller 17 at the left end of the cloth lay to which the carriage is being moved. The blocks 32 are adjusted vertically so that the delivery edge of the lower plate is just above the table and in position to raise the roller 17 by wedging under it, the said plates 22 and 23 being sufficiently separated to admit the roller 17 therebetween.

The machine is then moved in the reverse direction, the plate 22 or 23 passing out of engagement with the folded edge of the cloth held by the papillæ 21 under the roller 17. When the plate 22 or 23 is clear of the roller 17, the operator reverses the said frame by rotating it on the trunnions 33 until the recesses 35 rest on the opposite sides of the blocks 34. The carriage is then moved to the opposite end of the lay where the operation above described is repeated in conjunction with the second roller 17.

During the operation of laying the cloth on the table 12, the operator from time to time adjusts upward the height of the blocks 32 to secure the approved position of the blade 22 or 23, so that it be slightly above the pile of cloth laid, and low enough to lift the roller 17.

Claims.

1. A machine as characterized comprising a table; a carriage movable thereon; a plurality of detent rollers, said rollers being rotatable in one direction only; means provided on said rollers permitting the introduction of cloth thereunder and for preventing the withdrawal of the same; means for carrying a supply of cloth on said carriage; means for spreading said cloth on said table, said means embodying a rocking frame embodying spreading plates, said plates being held in spaced relation to permit the introduction of said detent rollers therebetween, and the forward edges of said plates being contracted for wedging under said rollers; means manually operable for reversing the working position of said plates; and means manually operable for regulating the working height of said plates.

2. A machine as characterized comprising a table; a carriage movable thereon; a plurality of detent rollers, said rollers being rotatable in one direction only; means provided on said rollers permitting the introduction of cloth thereunder and for preventing the withdrawal of the same; means for carrying a supply of cloth on said carriage; means for spreading said cloth on said table, said means embodying a rocking frame embodying spreading plates, said plates being held in spaced relation to permit the introduction of said detent rollers therebetween, and the forward edges of said plates being contracted for wedging under said rollers; means manually operable for reversing the working position of said plates; and means manually operable for regulating the working height of said plates,

said means embodying a plurality of journal boxes supporting said plates and feed screws for elevating and depressing said boxes.

3. A machine as characterized comprising a table; a carriage movably mounted thereon; an extension frame mounted on said carriage, said frame having vertically extended guide slots; a plurality of bearing blocks mounted in said slots; means for elevating and lowering said blocks in unison; and a spreading frame pivotally mounted on said blocks to assume a forwardly and a rearwardly extended position relative thereto, said frame embodying two spreading plates, and supporting sides therefor, said plates being disposed in a slightly angular relation; and means manually controlled for rocking said frame.

MOSES ISAACS.

July 5, 1932. A. L. CUTTER 1,866,088

CLOTH LAYING MACHINE

Filed July 17, 1931 2 Sheets-Sheet 1

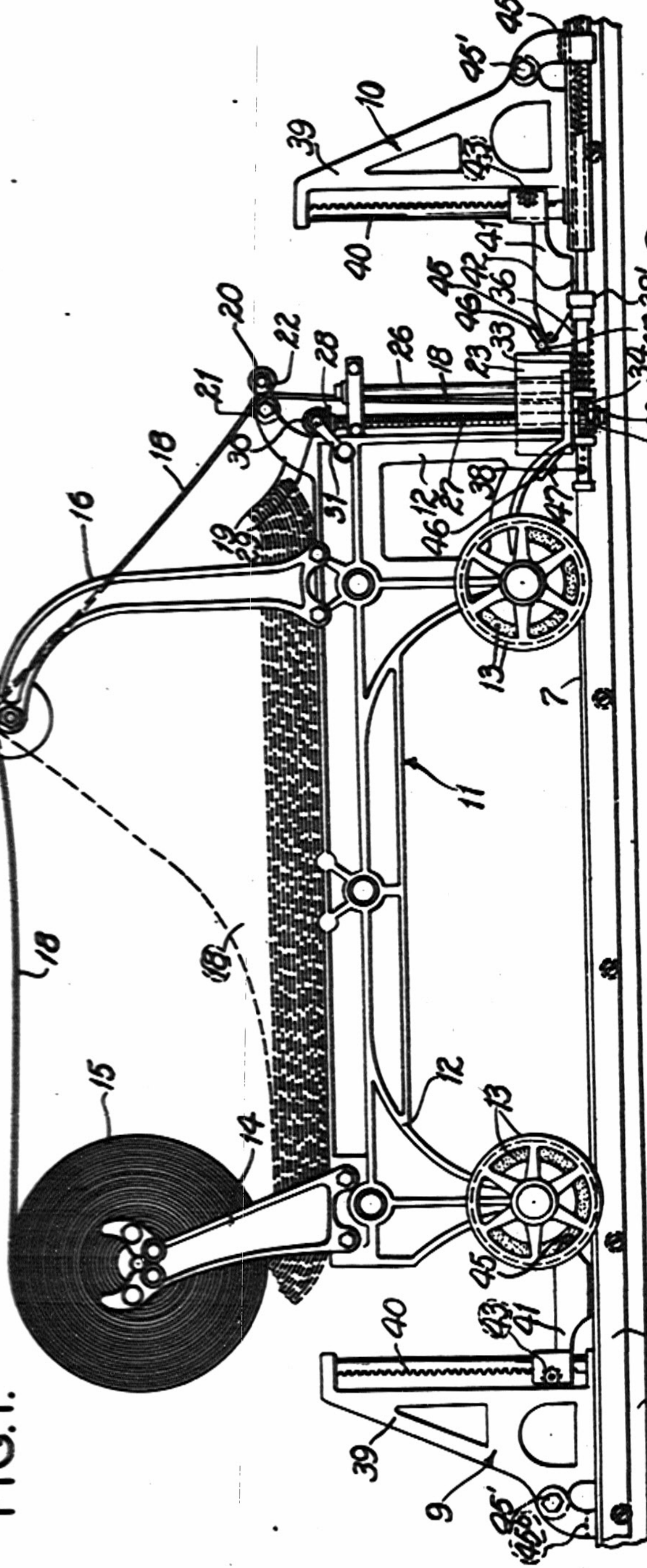

FIG. 1.

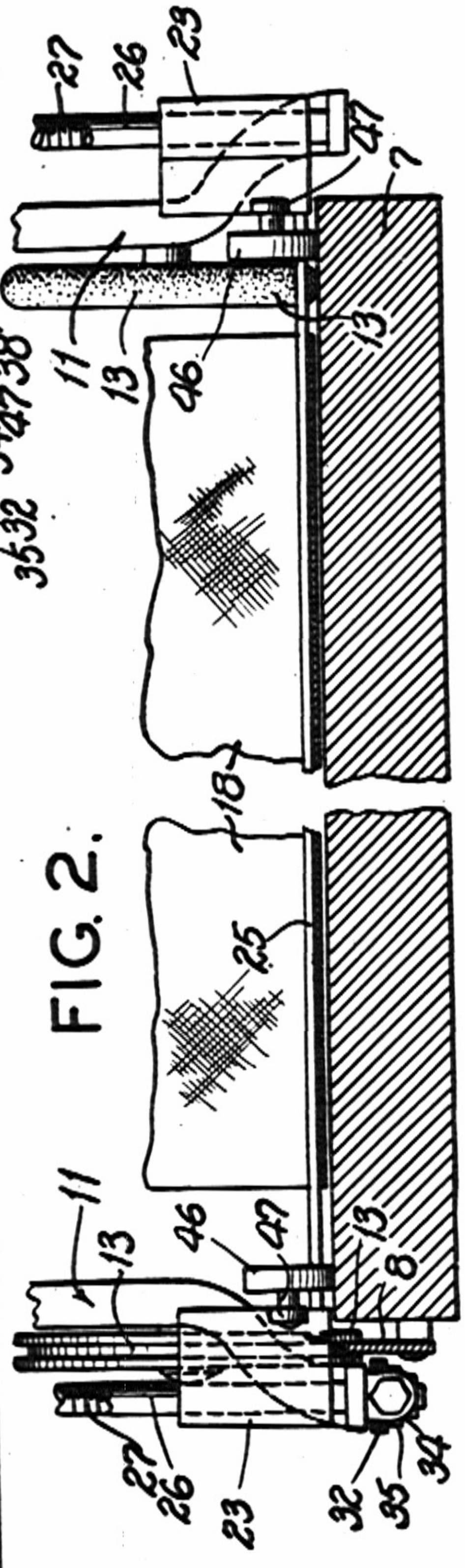

FIG. 2.

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BY Arthur C Eckert

ATTORNEY.

July 5, 1932. A. L. CUTTER 1,866,088

CLOTH LAYING MACHINE

Filed July 17, 1931 2 Sheets-Sheet 2

FIG. 3.

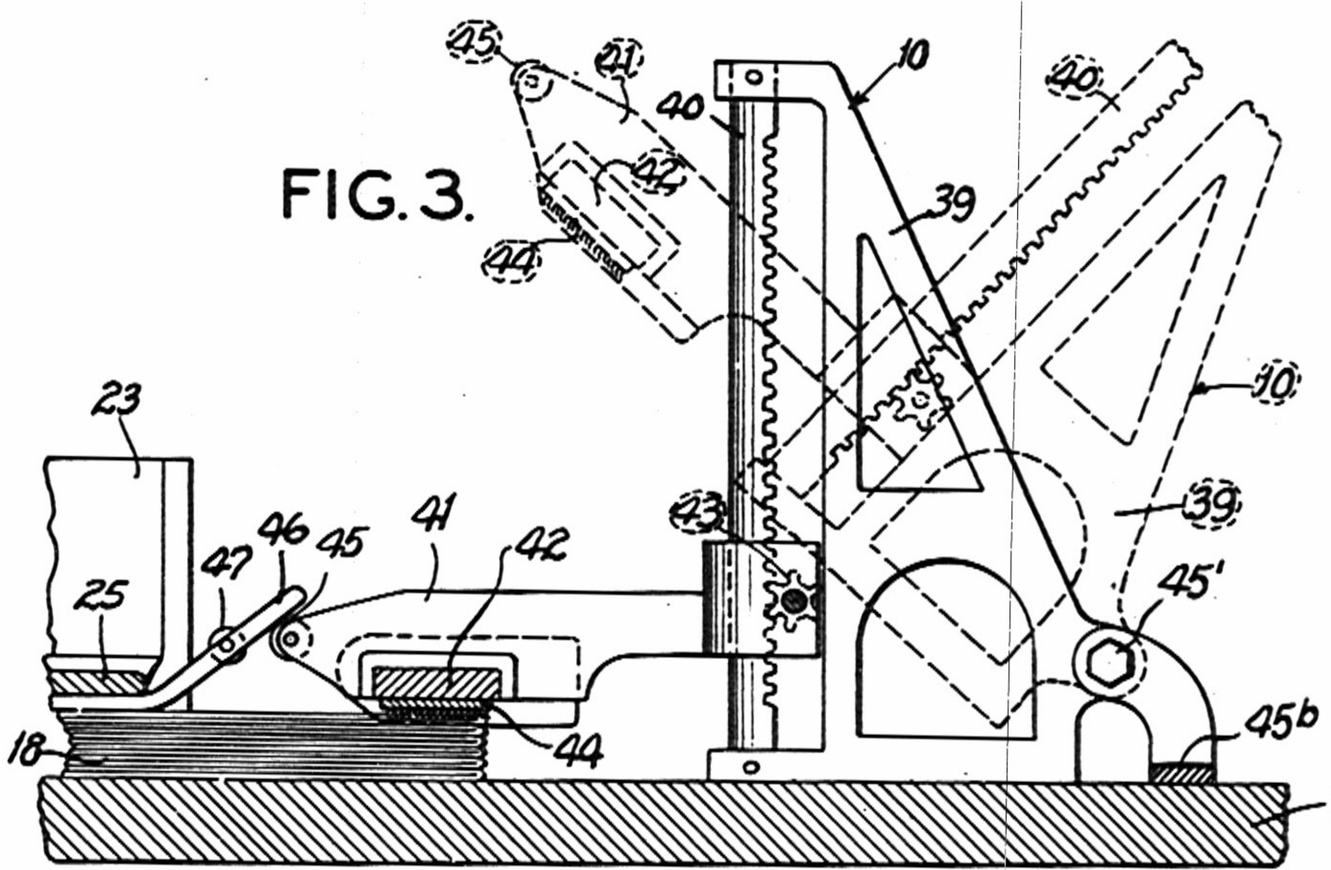


FIG. 4.

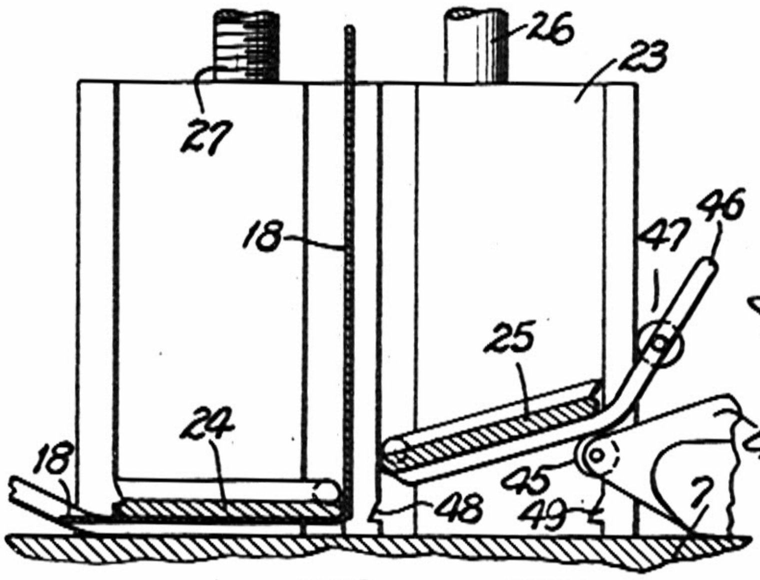


FIG. 6.

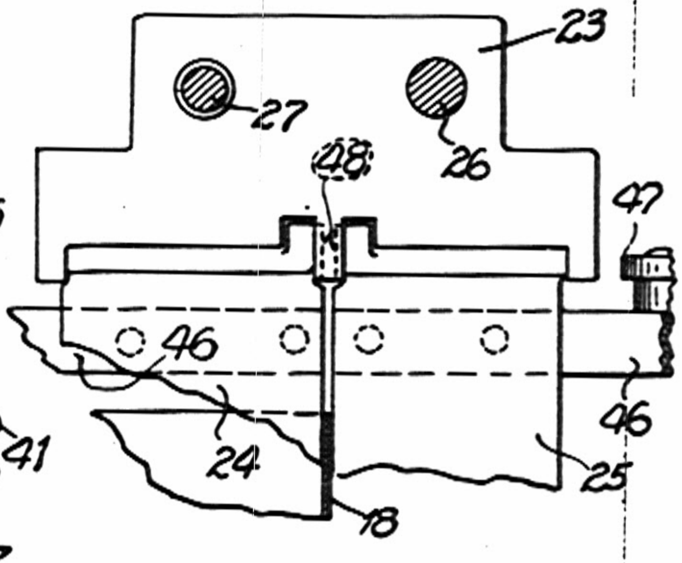
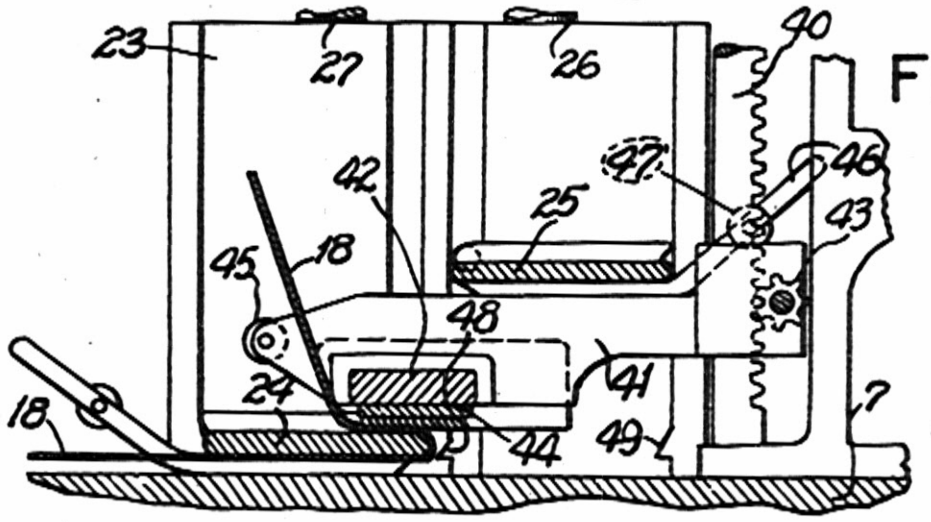


FIG. 5.



INVENTOR

ARTHUR L. CUTTER

BY Arthur C Eckert

ATTORNEY.

Patented July 5, 1932 **1,866,088**

UNITED STATES PATENT OFFICE

ARTHUR L. CUTTER, OF MAPLEWOOD, MISSOURI

CLOTH LAYING MACHINE

Application filed July 17, 1931. Serial No. 551,358.

The object of my invention is to make an improvement on a cloth laying machine. More specifically my invention consists of a catching device for holding the cloth at the end of the lay and an actuating device for inserting the cloth in the catchers, mounted upon a movable frame or carriage. The method of laying the cloth consists in unrolling or unfolding the cloth from rolls or bolts and laying it on a table in superimposed layers.

My device concerns itself with the type of machine in which the ends of the layers are uncut or folded back upon themselves. In order to secure the ends automatically, when the carriage of my device is moved backward and forward on the table on which the cloth is layed, my device is provided.

The catching device consists of two identical parts, one mounted on each end of the table with the actuating device secured to the carriage. The cloth is passed over tensioning and straightening rolls and between flat bars, which serve to engage the cloth with the catching device.

The object of my catching device is to positively engage the cloth without damaging, and to provide a machine that may be used in laying cloth in lays of different length. One that is simple in construction, easily accessible for inspection or removable of cloth, one that may be inexpensively built, and that lends itself readily to multiple production.

With these and other objects in view, my invention has relation to certain novel features of construction and arrangement of parts, as will be hereinafter more fully described, pointed out in the claims, and illustrated in the drawings, in which

Fig. 1 is a side elevation of my device.

Fig. 2 is a fragmental front elevation of the carriage.

Fig. 3 is a side elevation of the cloth catcher with the rigid catcher bracket shown in its normal cloth holding position in solid lines, and in its released position in dash lines, showing the catcher bar bracket in its cloth engaging position in contact with the catcher actuating mechanism of the carriage, or shown fragmentally. This figure shows the initial contact between the catcher and actuating bars.

Fig. 4 is a fragmental side elevation of the bracket supporting the catcher actuating bars of the carriage. This figure shows the catcher actuating bars in an advanced position.

Fig. 5 is a view similar to Fig. 4 showing a farther advance of the catcher actuating bars toward the catcher. bars and the approach toward complete contact between the cloth and catcher bar.

Fig. 6 is a fragmental plan view of the catcher actuating bars and supporting bracket shown in Fig. 2.

The cloth laying machine is mounted on the table 7, on the one side of which is secured the track 8 in spaced relationship with the table. A second track may be provided on the opposite side of the table, if desired. That is, only one track is needed, although two may be used, one along either side of the edge of the table.

Numeral 9 designates one cloth catcher generally. Numeral 10 designates an identical cloth catcher. Cloth catchers 9 and 10 are secured to the table 7 in any conventional manner, one permanently and the other may be moved along the table top longitudinally to any position. The distance between the cloth catchers 9 and 10 determines the length of the lay of the cloth. These cloth catchers are positioned transversely across the table top.

Numeral 11 designates the carriage generally which consists of the body 12 rotatively supported on four wheels 13. Only two wheels are shown in the drawings. The front and rear wheels on one side are operatively mounted on the track 8. The width of the table 7 is greater than the width of the carriage 11 in the construction shown, so that two wheels supporting the carriage opposite those shown in the drawings roll along the top of the table. The cloth to be laid may be either in rolls or in bolts. This machine may be used for either.

Numeral 14 designates a roll rack upon which the roll 15 may be rotatively supported.

Numeral 16 designates a support secured to the body of the machine 12. At the upper end of the support 16, the guide flange and roller 17 is rotatively secured. If the cloth to be laid is supplied in flat fold bolts, it may be laid in the body 12, as shown by the dash lines, and the end passed oved the roller 17 as was done with the roll goods.

On the body 12 is formed the bracket 19. The roll rack 14, support 16 and bracket 19 are duplicated on the opposite side of the body 12. Between the brackets 19 are positioned two guide rollers 20, and 21, which are secured as follows:

Pivot blocks 22 are rotatively secured, one to each bracket 19. The rollers 20 and 21 are rotatively secured to the pivot blocks 22 in spaced relationship. The cloth 18 passes between the rollers 20 and 21 downwardly as shown in the drawings. The device thus far described is conventional. The description of the machine will follow the path of the cloth from the carriage to the table. On the front end of the body 12 is formed the cloth bar support bracket 23, to which are secured the cloth bars 24 and 25. These bars are in spaced relationship. The cloth bar support bracket 23, Fig. 6, is in sliding vertical engagement on the rods 26. By means of the threaded rods 27 passing through tapped holes in the cloth bar support bracket 23, the cloth bar support bracket 23 and the cloth bars 24 and 25 may be raised or lowered. In order to accomplish this, beveled gears 28 are secured to the upper free ends of the threaded rods 27. Numeral 29 designates a rod rotatively mounted in the body 12, and having beveled gears 30 secured to the ends. The beveled gears 30 are in mesh with the beveled gears 28.

Numeral 31 designates a handle secured at one end of the rod 29. By turning the handle 31, and the rod 29, and the beveled gears 30, the threaded rods 27 are rotated, thereby moving the cloth bar support bracket 23 upwardly or downwardly depending on the direction of rotation of the handle. Rotatively mounted at the lower end of the threaded rod 27 is a pinion 32. A pawl 35 is fastened to the lower face of the pinion 32, which is in engagement with a ratchet 34 secured to the rod 27 at the extremity thereof.

Numeral 33 designates a rack in mesh with which is placed the pinion 32 for lowering the front end of the machine body 12. Rack 33 is normally held extending toward the catcher 10 by a return spring 36. The extent of the longitudinal travel is adjustable by means of a limit stop pin 38, which may be located in any of several holes located in rack 33. It is evident that this device affords an automatic means of elevating the cloth support bar bracket 23, as follows:

A stop 38′ attached to the catcher 10 causes the rack 33 to be depressed rotating the pinion 32. Through the pawl 35 in engagement with ratchet 34, the threaded rod 27 is revolved in the direction necessary to elevate the bracket 23. As the machine travels away from the catcher 10 the return spring 36 restores the rack 33 to its normal position without affecting the bracket 23, since in the reverse direction the pawl 35 disengages from the ratchet 34, allowing the pinion 32 to be revolved about in its threaded rod 27. Since the rack 33 is operated but once for each cycle of operation of the carriage 11, the amount by which the bracket 23 is elevated is equal to twice the thickness of the cloth being laid.

Compensation for the variation in thickness of goods for different kinds is made by shortening or lengthening the stroke of the rack 33 by means of the limit pin 38, which may be placed in any of a number of holes placed in the rack 33 for this purpose.

Catchers 9 and 10 comprise two normally stationary brackets 39, one being situated at each side of the table, supporting the vertical rods 40 with rack teeth cut in one face thereof. The catcher bar 42 positioned transversely across the table is attached to two horizontal brackets 41, slidably engaged with the vertical rod 40, so as to permit it to be elevated with respect to the table top. The pinions 43 are mounted on the brackets 41. The pinions are in engagement with the rack cut in the face with the vertical rod 40. Pinions 43 are mounted on the opposite ends of the same rod, insuring the elevation of both ends of the catcher bar 42, when either end is raised.

Numeral 44 designates the actual catching material, which is attached to the catcher bar 42, and which comes in contact with the cloth 18 to hold it against withdrawal. The cloth catching material 44 is made of staples with beveled points set in spaced relationship, each point inclined away from the carriage and so mounted upon the lower surface of the catcher bar 42, as to permit goods to be drawn along underneath without engaging therewith, yet instantly engaging the fibers of the cloth, the moment withdrawal of the cloth is attempted.

Catcher bar 42 is prow shaped toward the carriage, mounting a roller 45 at the extreme tip thereof, where it engages the cloth bars 37. Upright catcher brackets 39 are attached by a hinge joint 45′ to an angle member 45*b*, which is fastened to the table by suitable means. The hinge 45′ permits the catcher 10 to be swung out of engagement with the cloth 18 at the end of the laying operation, affording excess to the end of the lay for counting the layers, inspection, etc. The catcher actuating device consists of the bars 24 and 25 between which the cloth 18 passes to the table 7. These bars 24 and 25 are flat and are rotatively secured to the supporting brackets 23, through pivotal extensions thereof, which ride in vertical slots in the brackets 23, as best shown in Fig. 6. Attached to the cloth bars 24 and 25 and extending at right angles thereto are mounted cloth bar fingers 46, which are curved upwardly at the end and support rollers 47, which rotatively engaging the side of the brackets 23 limit the angular rotation of the cloth bars 24 and 25. Normally the cloth bars 24 and 25 rest at the bottom of the brackets 23, in which position each of the bars 24 and 25 is locked to resist rotation due to an upward pull of the goods being drawn around the edge of the bars as it passes to the table 7, the rotative action being due to the friction of the cloth passing over the straightening roller 17 and guiding and tensioning rollers 20 and 21. This locking is accomplished by wedging the pivoting edge of the bars 24 and 25 into a notch 48 in the side of the brackets 23 by means of a projecting lug 49 on the opposite side of the brackets 23. While the bars 24 and 25 are locked against rotation in this certain direction, they are readily rotated in the opposite direction by elevating the ends of the cloth bar fingers 46, which serve to release the locking and more readily permits the bars 24 and 25 to be raised. Cloth bar fingers 46 are so positioned on cloth bars 24 and 25, that they are first to engage catcher bar rollers 45, as the carriage 11 is brought toward the catcher 10. The operation of my device is as follows:

By moving the carriage 11, which supports the cloth 18 upon the table 7, in the direction of the catcher 10, the cloth bar finger 46 is caused to engage the catcher bar roller 45, which rotates the forward one, of the two cloth bars 25, releasing the cloth bar 25 from its locked position. This is shown in Fig. 5. As the carriage is advanced, as shown in Fig. 4, the most forward cloth bar 25 is forced upon the roller 45, and later, as in Fig. 5, comes to rest on the top of the catcher bar bracket 41. The cloth bar 24 is brought into position carrying the cloth 18, below the center of the catcher roller 45. Consequently the catcher bar 42 is in turn elevated drawing the catcher bracket 41 over the top of the cloth, as shown by Fig. 5. When the trailing cloth bar 24 is completely beneath the catcher bar 42 the carriage is stopped and proceeds in the reverse direction. The withdrawal of the cloth 18 engages the cloth with the catching material 44, which holds it securely as the operation is repeated in the reverse direction in the second half cycle of the operation of the machine. As the carriage moves away from the catcher 10, the cloth bar 25 moves down into normal position in the brackets 23 and in this half cycle, the formerly inoperative bar 25 now carries the cloth 18 into the opposite catcher 9. During this process, the bracket 19 has been elevated by an amount equal to two thicknesses of cloth, so that relatively close spacing between the lower surface of the bars 24 and 25 and the top of the cloth 18 as it lays on the table, can be maintained.

Since the catcher rests upon the top surface of the lay of cloth, it is automatically positioned to engage the cloth bars in each cycle of operation.

What I claim is:

1. A cloth laying machine of the character described comprising a carriage, cloth bar supporting brackets supported on said carriage in sliding vertical engagement, cloth bars between which the cloth is drawn carried by said cloth bar supporting brackets and being in sliding engagement therewith, upwardly curved fingers secured to said cloth bars, operatively positioned to release said cloth bars from their locked position during the inoperative position of the machine cycle.

2. A cloth laying machine, comprising a carriage, cloth bar supporting brackets supported on said carriage, cloth bars carried by said cloth bar supporting brackets in operative relationship with a cloth catching device comprising card clothing having wires sharpened to beveled points secured thereto, automatic means of elevating the cloth bar bracket as the cloth is piled beneath the machine.

In testimony whereof I affix my signature.

ARTHUR L. CUTTER.

June 11, 1940. C. C. SCHNEIDER 2,203,970

CLOTH LAYING MACHINE

Filed June 30, 1938 3 Sheets-Sheet 1

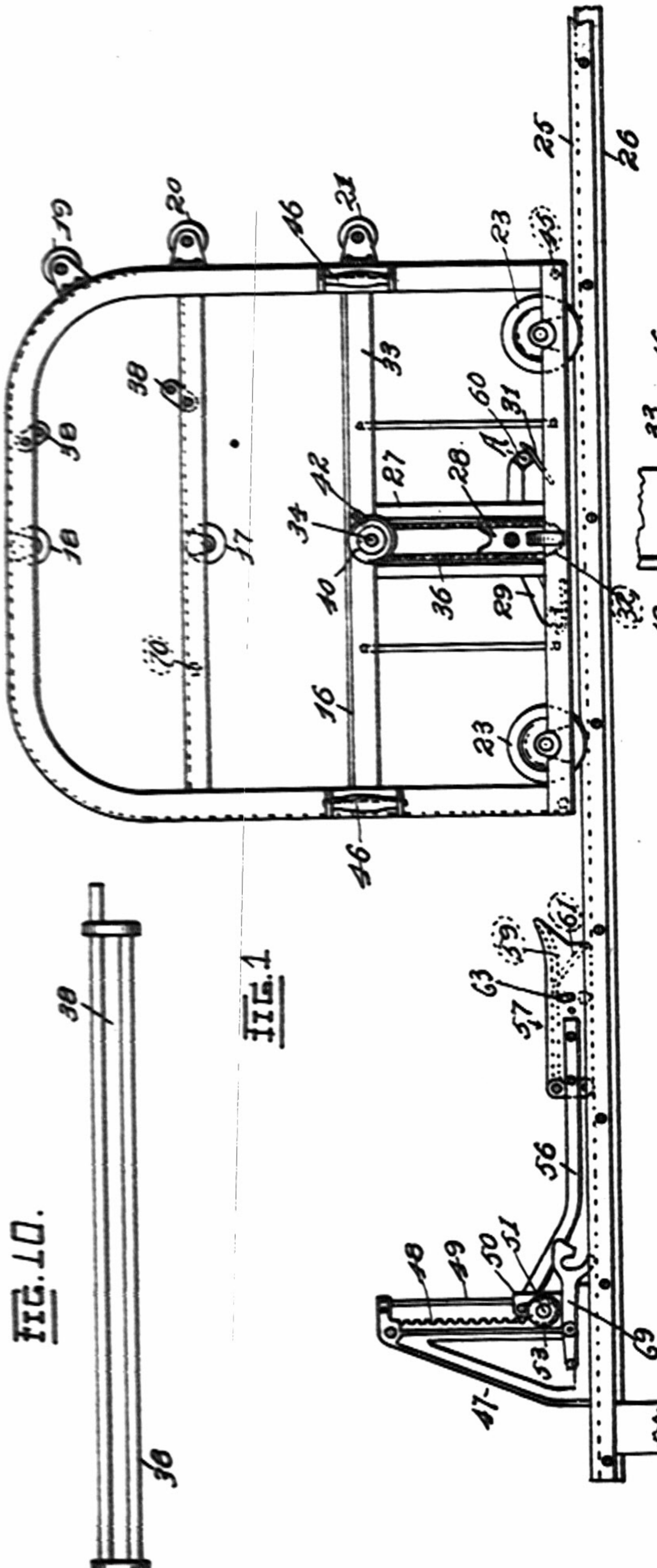
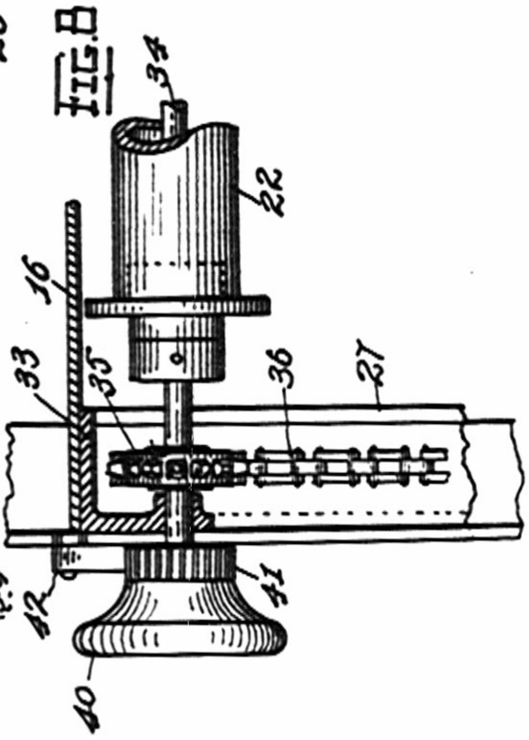


FIG. 1

FIG. 8.



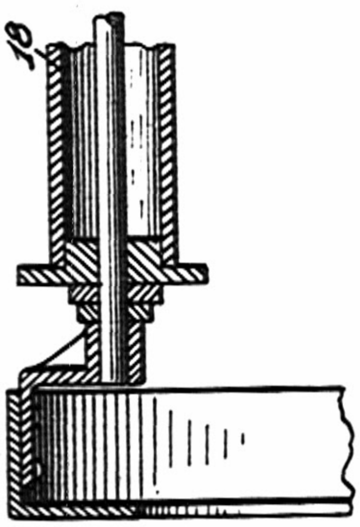


FIG. 9.

FIG. 10.

Inventor

Charles C. Schneider.

June 11, 1940. C. C. SCHNEIDER 2,203,970

CLOTH LAYING MACHINE

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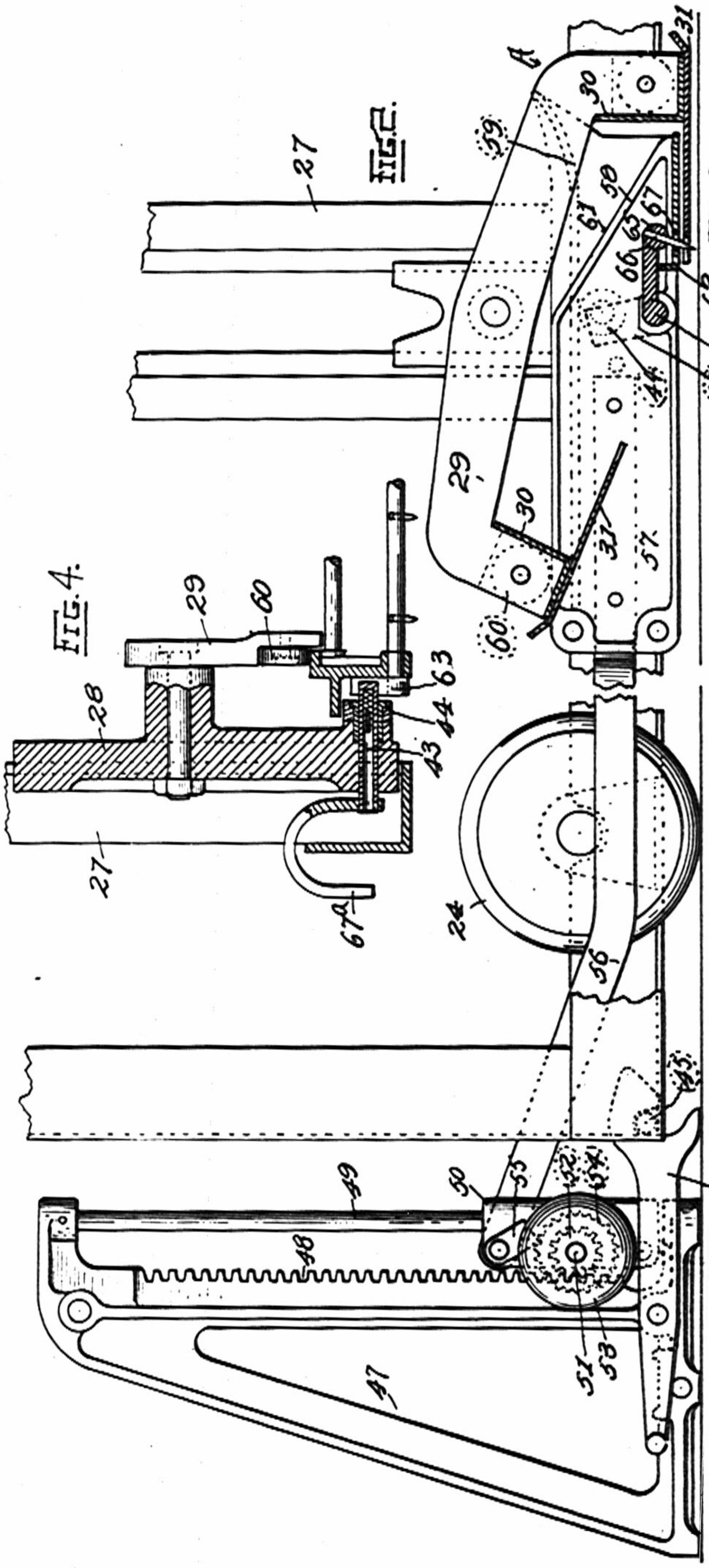

FIG. 3.

FIG. 4.

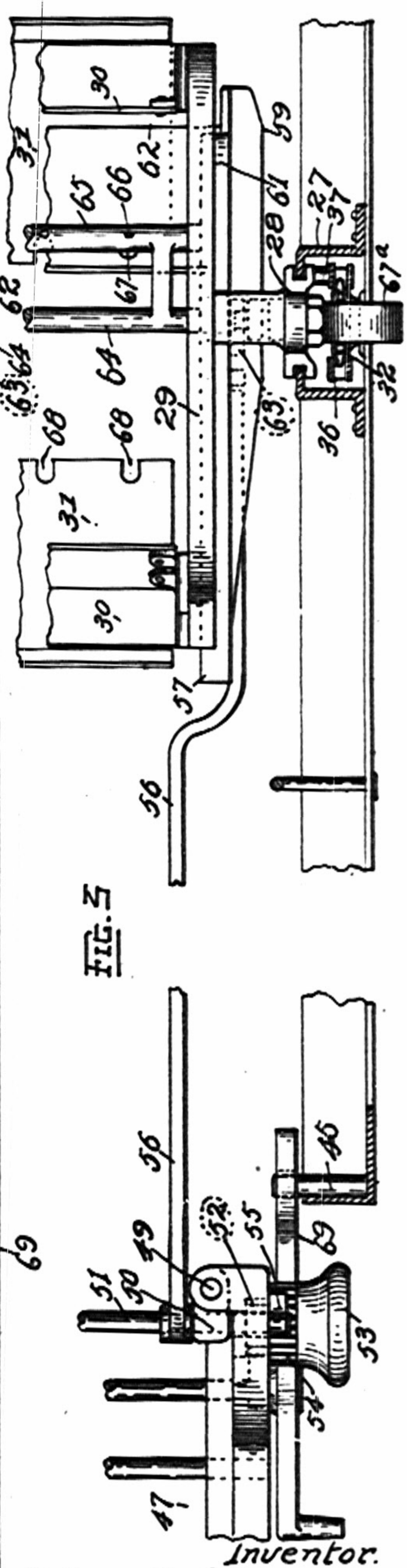

FIG. 5

Inventor.

Charles C. Schneider

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June 11, 1940. C. C. SCHNEIDER **2,203,970**

CLOTH LAYING MACHINE

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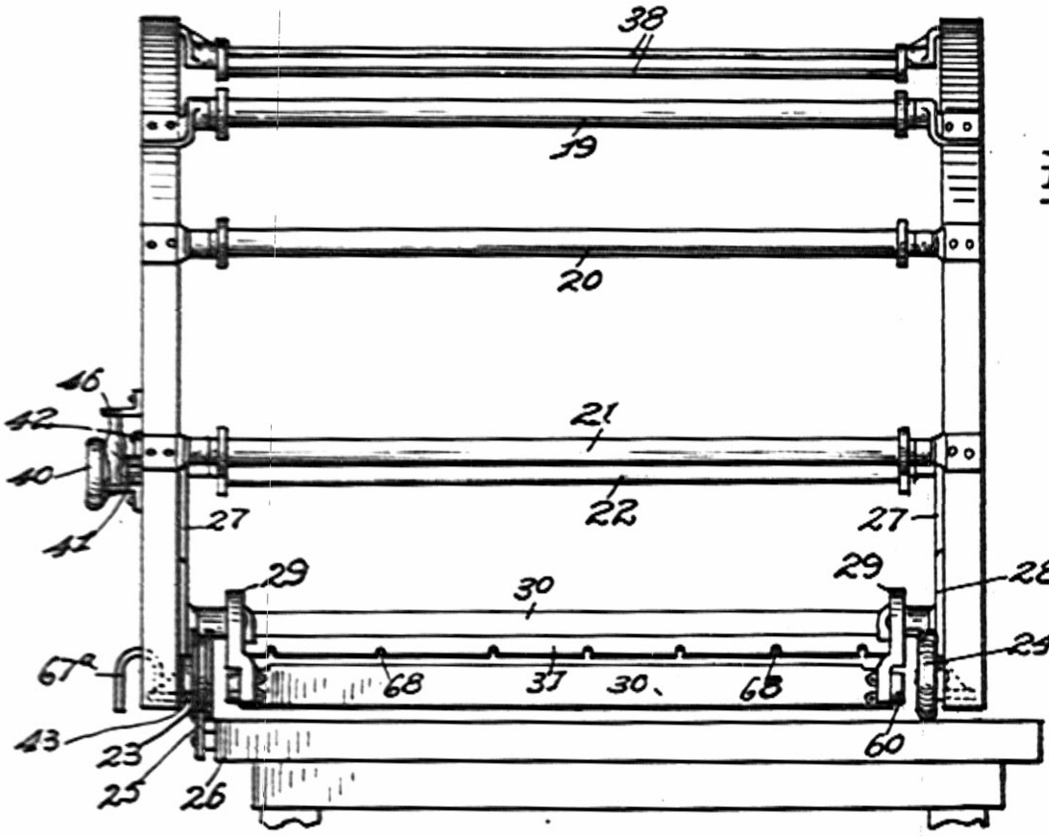
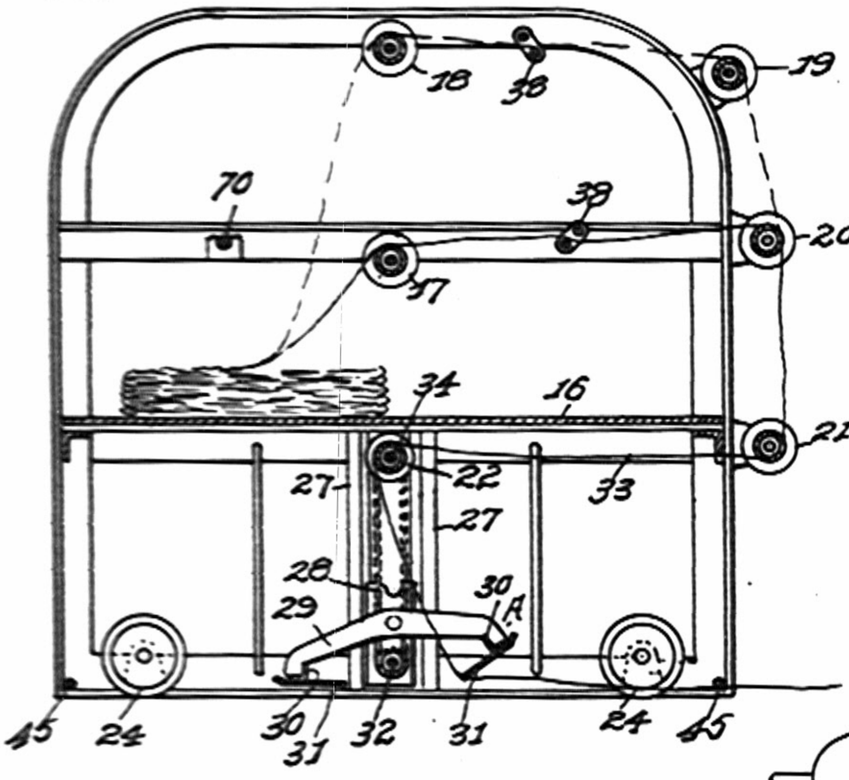


FIG. 5.

FIG. 6.



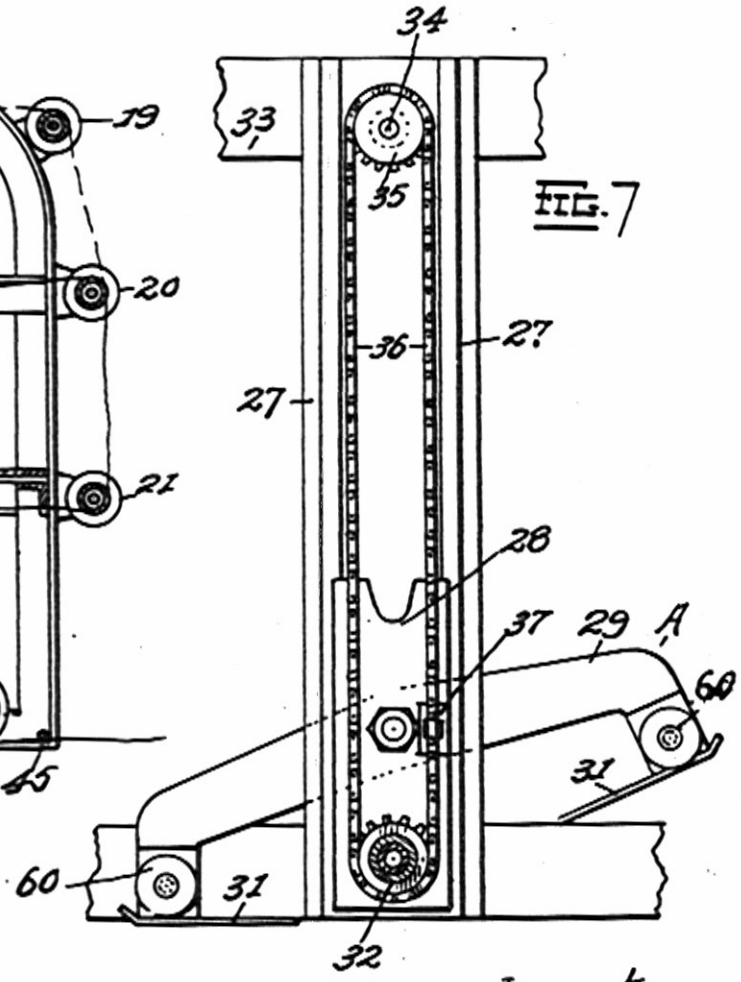


FIG. 7

Inventor

Charles C. Schneider

Patented June 11, 1940 **2,203,970**

UNITED STATES PATENT OFFICE

2,203,970

CLOTH LAYING MACHINE

Charles C. Schneider, St. Louis, Mo.

Application June 30, 1938, Serial No. 216,779

4 Claims. (Cl. 270—31)

This invention relates to improvements in cloth laying machines of a type to be used by garment makers for piling up layers upon layers of cloth on a long table after which the pile is patterned and then cut and the proper parts united and sewed together to constitute the desired garment.

This particular invention is an improvement over applicant's former patent for cloth laying machines issued to him November 18, 1924, and numbered 1,516,212, and for catchers for cloth laying machines issued to him September 15, 1931, and numbered 1,822,908, which improvement herein embodies many new, modern, and valuable features and additions over his former patent, which renders his present invention more complete, practical and more effective in every respect.

The embodiments of the machine comprise a carriage equipped with a suitable table or platform on which a bolt or bolts of cloth are placed, guide rollers over which the cloth is guided, cloth tension devices, a cloth spreading and inserting means which can be elevated as the pile increases in height, and is operative in combination with cloth catching devices, one located on each end of an elongated table by which the cloth is gripped and held firm while the carriage is being conveyed back and forward on the table during the cloth laying and piling process.

The important feature of this invention is to provide the cloth carrying carriage with a cloth spreading and inserting means which automatically tilts itself to a position for spreading, laying and piling the cloth on the table, and during the delivery of each layer it is so tilted as to direct and insert the cloth under a catching or gripping device when brought in contact therewith, at the same time locking the carriage to the catching device, and to manipulate cloth grippers when the locking means is released.

Another feature of the invention is the general arrangement, construction and combination of parts comprising a complete operative device as will be fully hereinafter described and set forth in the claims.

Figure 1 is a side elevation of my improved cloth laying machine supported on a table and in close proximity to one of the cloth catching or gripping devices used.

Figure 2 is an enlarged detail view of a portion of the cloth laying carriage shown in relative position with the catching means, parts being shown broken away and parts in section.

Figure 3 is a top plan view of the same a part broken away and in section.

Figure 4 is an enlarged detail sectional view of a portion of the carriage showing the releasing means made use of.

Figure 5 is an end view of the carriage positioned on a table.

Figure 6 is a vertical central cross sectional view of the carriage.

Figure 7 is an enlarged detail view showing the elevating mechanism made use of.

Figure 8 is a detail sectional view of the elevating manipulating mechanism.

Figure 9 is an enlarged detail sectional view of a portion of a guide roller and its means of support to the carriage frame.

Figure 10 is a detail view of the tension rods made use of.

In the general construction of my device, I provide a carriage the same comprising or consisting of two side frames and made preferably of angle bars, these two frames are connected by a cloth supporting tray or platform 16 on which the bolt of cloth to be layed is placed. On the frame is mounted guide rollers 17, 18, 19, 20, 21, and 22, over which the cloth is passed and guided during the laying process.

The carriage is provided with wheels 23 and 24, the wheels 23 being grooved to operate on a track 25 formed on a cloth receiving table 26 which may be of any desired length.

Both sides of the frame are provided with elevating slides 27 between which are slidably mounted elevating slide heads 28 to each of which are swingingly mounted spreader arms 29 their ends being connected by angle bars 30, to the under side of which are attached spreader and cloth inserter plates 31 by which the cloth is inserted under the catching and gripping devices located on both ends of the table.

To the side frames of the carriage and directly beneath the elevating side heads are axially mounted sprocket wheels 32, and to the cross bars 33 of the frames is passed a shaft 34 supporting the guide roller 22, and on said shaft is mounted a sprocket wheel 35 which is in alignment with the lower sprocket wheel and over which wheels operates a sprocket chain 36 the same being connected to the elevating slide heads at the point 37. By this arrangement the spreading and inserting means may be raised and lowered as the pile of cloth increases in height.

To the carriage frame is also supported tension rods 38 they are so arranged as to be positioned at any angle and held firm in such position by means of the tightening nuts 39. Between these rods the cloth may be passed, and by tilting said rods tension is applied to the cloth to the extent as required.

On the extreme outer end of the shaft 36 is a hand wheel 40 by which the elevating means is operated, said wheel is provided with a ratchet surface 41 against which communicates a ratchet pawl 42 pivoted to the frame and its free end engaging the teeth of the wheel ratchet which holds the elevating means in its adjusted position.

The lower end of one of the elevating slide heads is provided with a releasing means which consists of a pin 43 of partly hollow construction and in which is positioned an expansive spring for normally holding the pin in extended position, this pin passes through a boss formed on the head against which is positioned a roller 44, the pin 43 supported in a suitable bushing passes through the center of the roller and projects a reasonable distance beyond to contact with a lug formed on the catching device for operating the catcher pin bars, all of which will be hereinafter described.

At each lower corner of the carriage frame is positioned projecting pins 45 the purpose of which will be hereinafter described, and the frame is also provided with handles 46 by which the carriage is conveyed back and forward upon the table.

In conjunction with the cloth laying carriage as described, the catching and gripping devices used are very essential in order to provide an operative apparatus for the purpose designed.

The catching devices comprise a pair of standards 47 having rack faces 48 and a slide guide rod 49, on this rod operates a slide head 50, and from one head to the other is an operating shaft 51 on which are fixed rack pinions 52 which engage with the rack bars 48, and on said shaft is a hand wheel 53 by which the shaft is turned, the purpose of which is to elevate the catching device to correspond with the height of the spreading device of the carriage as the pile of cloth increases in height.

In order to hold the catching device in the adjusted position I provide on the hand wheel ratchet teeth 54 and engaging therewith is a ratchet pawl 55 carried by the head 50. On the shaft 51 is also supported arms 56 the free ends of which are attached to catcher cam heads 57 by which the spreading device is tilted to permit the inserter plate to pass the cloth under the catching mechanism.

These heads are provided with camways 58 and 59, the camway 58 permits the rollers 60 carried by the arms 29 to ride up the inclined surface 61 raising the one end of the spreading device and lowering the opposite end so that the inserter plate 31 on the side (A) may pass under the gripper plate 62 carried by the heads 57, and in order to perform this action, the heads are slightly raised by means of its camway surface 59 engaging with the rollers 44 on the carriage frame, the position of the two surfaces being clearly illustrated in Figures 2 and 4.

At the time when these contacts are made, the pin 43 engages with the lug 63 connected to a shaft 64 which controls the pin bar 65 which is provided with a plurality of pins 66 the same passing through holes 67 formed in the gripper plate 62 raising the pin bar upwardly bringing the pins out of contact with the cloth thereby permitting the inserter plate to pass the cloth thereunder, and when the same is done, and in order to release the pin bar the operator pulls the handle 67a releasing the lug 63 permitting the pins to insert themselves in the pile of cloth, and in order that the inserter plate may freely remove itself, elongated U shaped slots are formed in the inserter plate as that shown by 68.

At this juncture the machine is locked by means of the latch member 69 of the catcher mechanism contacting with the pins 45 located at the lower corners of the carriage frame. When this latch is released by the operator, the carriage by means of its handles 46 can be conveyed to the opposite end of the table where it will contact with a similar catching device and the operation repeated as previously described.

In Figure 6, I show the position of the cloth as it passes over the guide rollers and through the spreading device. When found necessary to handle two bolts at one time, I may place on the cross frame above the table 16 a second tray and lay the bolt of cloth on it, then the cloth is passed over the upper two guide rollers before contacting with the guide roller 20, then from there on two layers of cloth pass through the spreader. When it is found necessary to handle cloth that comes in rolls, I place the roll on a shaft 70 held in supports on the frame, and the cloth from said roll is guided over the rollers in like manner.

I do not desire to limit myself to the precise form and construction of the several parts, as some and other changes may be made in the construction and arrangement of the invention above set forth without departing from the real spirit and purpose thereof; and it is my intention to cover by the following claims any modified form of structure or use of equivalents which may be readily and reasonably included within their scope.

I claim:

1. A cloth laying machine comprising a carriage by which bolts or rolls of cloth are piled and spread on a table, said carriage having two side frames, a pair of elevating slides positioned centrally in said frames, slide heads positioned between said elevating slides, a chain mechanism for raising and lowering said slide heads, spreader arms swingingly mounted to said slide heads, cloth spreading plates carried by said spreader arms and by which the cloth is spread upon the table, in combination with a cloth catching means located on each end of the table for catching and gripping the cloth so laid, and a means carried by the carriage for elevating the catchers to permit the cloth to be passed thereunder.

2. A cloth laying machine comprising a carriage having two arched side frames, a cloth supporting table located between said side frames, a pair of elevating slides positioned centrally in each side frame and located between the table and the bottom rail of the side frame, a slide head positioned between each pair of elevating slides, a chain mechanism for raising and lowering said slide heads simultaneously, spreader arms swingingly attached to said slide heads and carried with the same, cloth spreading plates carried by said spreader arms over which the cloth is guided and spread upon the table, in combination with cloth catching means positioned on each end of the table, cam heads forming part of the catching means, rollers carried by the carriage for contacting the cam heads for elevating the same to permit the cloth to be passed thereunder, means carried by said cam heads for gripping the cloth as passed thereunder, and a rack mechanism forming part of

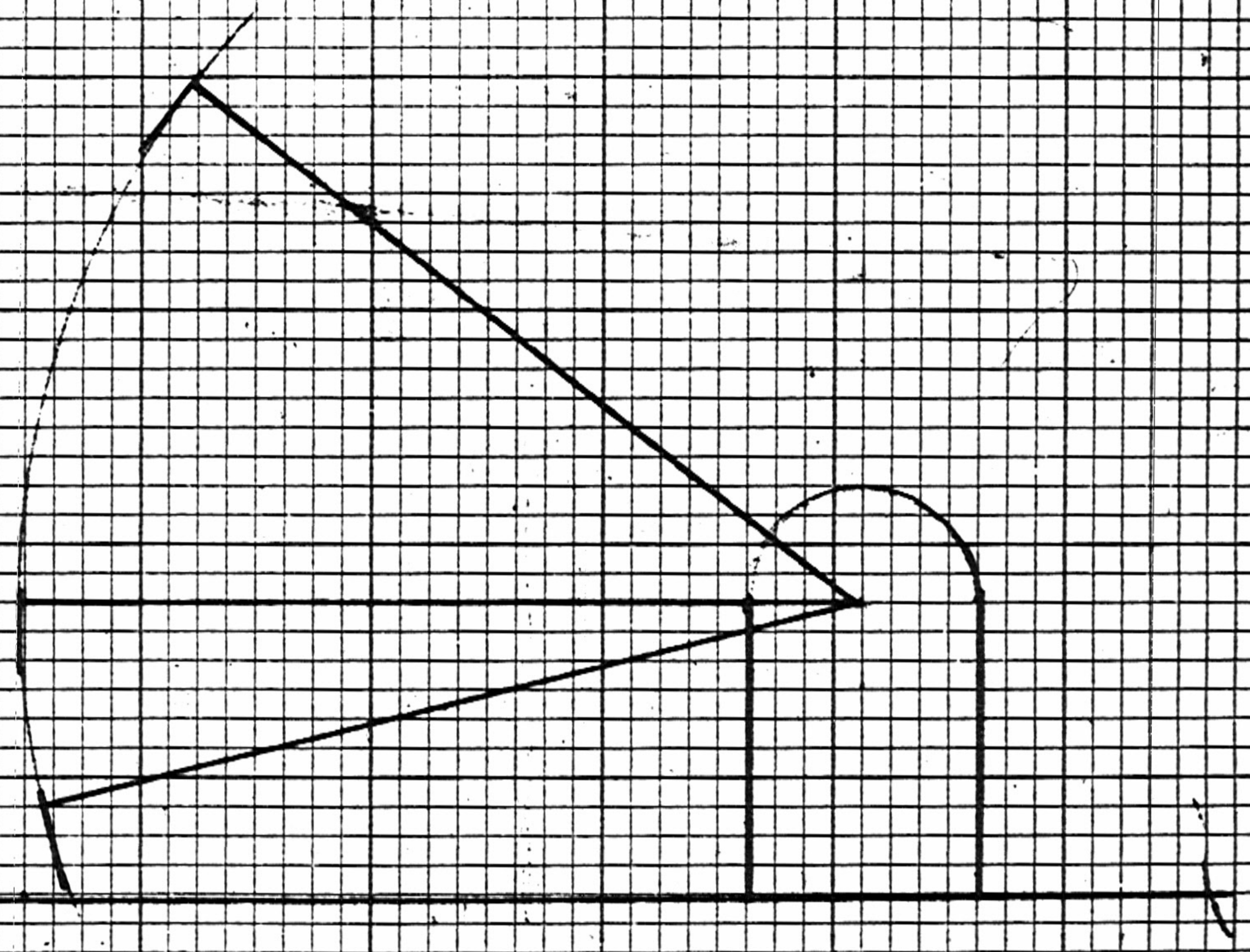
said catchers for adjusting the heighth to conform with the increasing pile of cloth, and a means for releasing the cloth gripping means, and a locking device carried by the cloth catchers to engage with the carriage.

3. A cloth laying machine comprising a carriage having two side frames, a cloth supporting table supported between the same and upon which the cloth to be laid is supported, a cloth spreading mechanism positioned centrally between said frames and beneath the cloth supporting table, said spreading means consisting of two sliding heads each mounted between vertical guides and between which the heads may be raised and lowered, an endless chain mechanism connected to said heads and by which they are controlled, a cloth spreading arm movably attached to each of the heads, cloth spreading plates carried by and attached to said spreader arms, rollers carried by said spreader arms, in combination with cloth catchers positioned on each end of the table upon which the cloth is to be laid, said catchers comprising cam heads provided with cam ways by which said cam heads are elevated when contacted with the rollers carried by the spreader arms, and a cloth gripping means carried by the cam heads for gripping the cloth when the same is passed thereunder.

4. A cloth laying machine comprising a carriage, cloth supporting table located in said carriage, said carriage having vertical guides in which are slidably mounted guide heads, cloth spreading arms carried by said heads, said arms provided with cloth spreading plates, rollers carried by the spreader arms and arranged to contact with and elevate cam heads forming a part of cloth catchers, in combination with cloth catchers located on each end of the table on which the carriage is mounted, the cam heads forming a part of said catchers, said cam heads provided with cam ways against the rollers communicate for elevating said cam heads to permit the cloth to be laid to pass thereunder, an endless chain means for elevating the spreading mechanism, and a rack and pinion mechanism for regulating the height of the cam heads.

CHARLES C. SCHNEIDER.

APR 4 1949
HARRY M. HULL, Clerk



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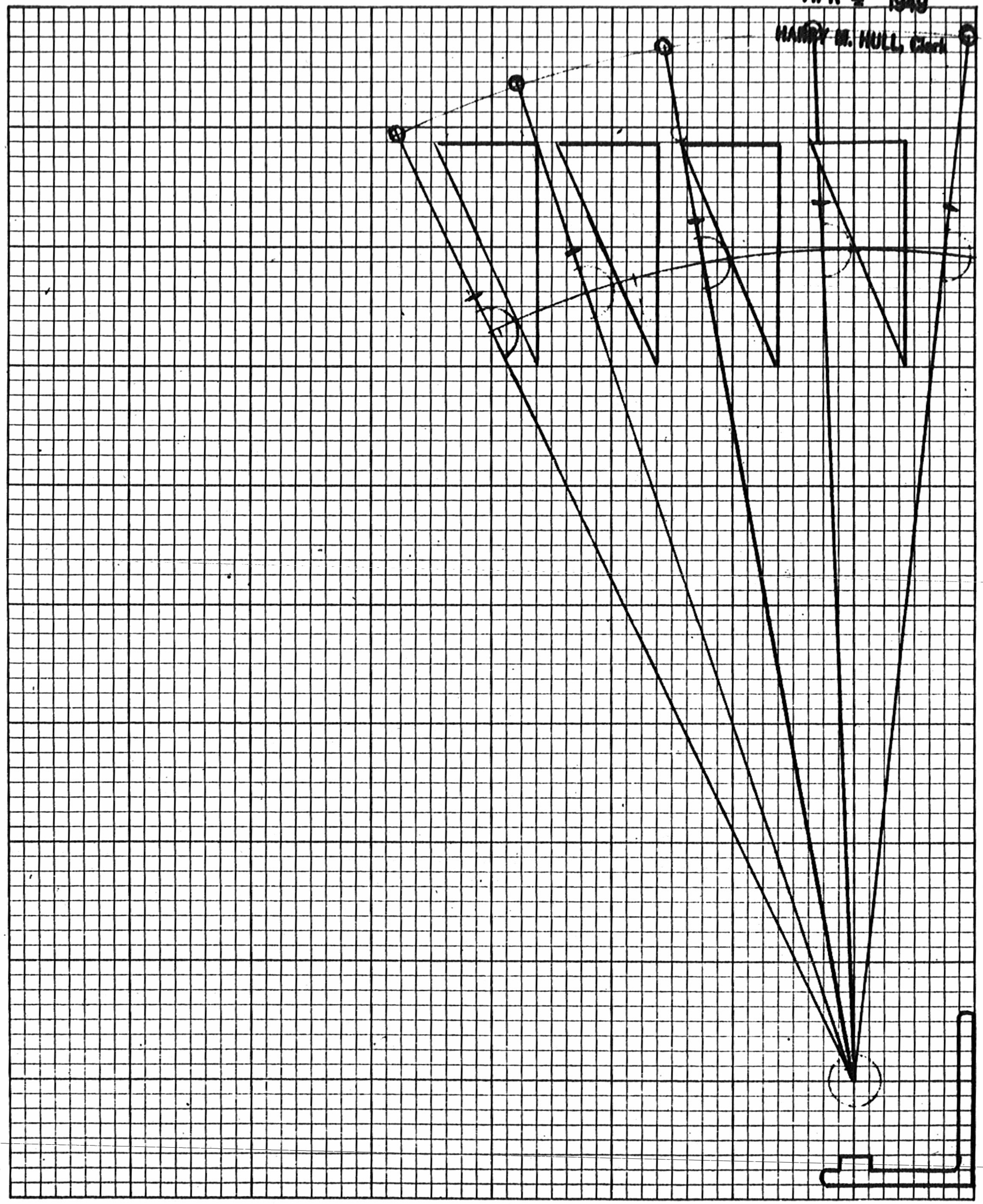

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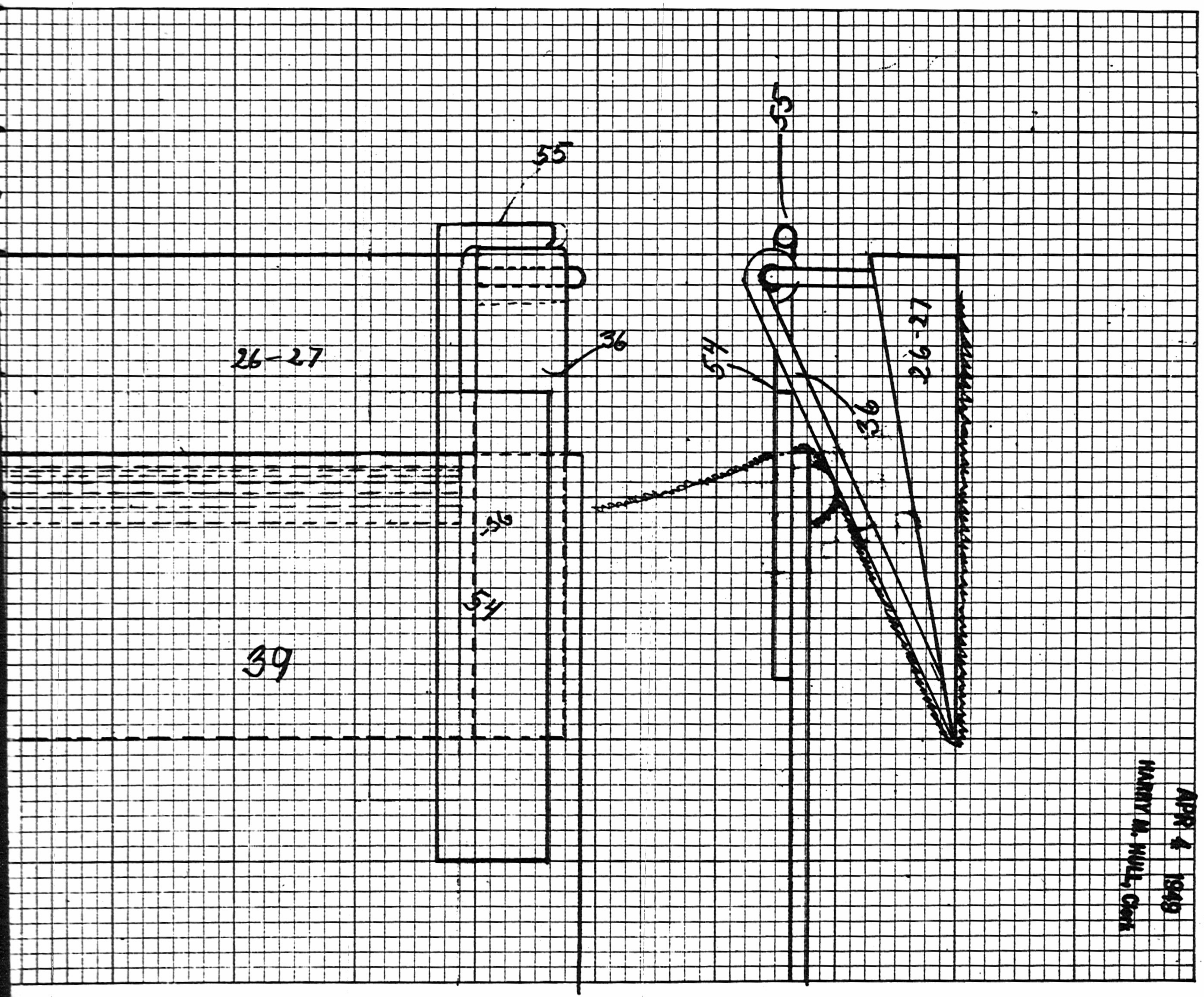

Plaintiff's Exhibit No. 5

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United States Court of Appeals
For the
District of Columbia Circuit
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Brief for Appellee

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

APPEAL NO. 10208

HERMAN WALTER GILBERT, WALTER DEICHMANN, FRANK H. DEXTER, AND CUTTING ROOM APPLIANCES CORP., APPELLANT

v.

John A. Marzall ~~LAWRENCE C. KINGSLAND~~, COMMISSIONER OF PATENTS, APPELLEE

APPEAL FROM THE JUDGMENT OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA CIRCUIT

W. W. COCHRAN,
Solicitor, United States Patent Office,
Attorney for Appellee.

E. L. REYNOLDS,
Of Counsel.

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Authorities cited:

- *Abbott* v. *Coe*, 71 App. D. C. 195, 109 F. 2d 449 11
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- *Butterworth* v. *U. S. ex rel. Hoe et al.*, 112 U. S. 50 7
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United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

APPEAL NO. 10208

Herman Walter Gilbert, Walter Deichmann, Frank H. Dexter, and Cutting Room Appliances Corp., appellant

v.

Lawrence C. Kingsland, Commissioner of Patents, appellee

APPEAL FROM THE JUDGMENT OF THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE COMMISSIONER OF PATENTS

INTRODUCTION

This is an appeal from the judgment of the United States District Court for the District of Columbia (28)[1] dismissing the complaint in an action under R. S. 4915 (U. S. C. title 35, section 63) in which the appellants sought to have the court authorize the issuance of a patent containing claims 36, 38, 40, 42, 48 to 55, inclusive; 58 to 63, inclusive; 71 and 74 to 79, inclusive, of their application No. 370,784 for patent on a sheet material spreading machine. On page 1 of appellants' brief it is stated that the appeal is withdrawn as to claims 36, 38, 40, and 42. The claims here involved appear on pages 8 to 18, inclusive, of appellants' appendix.

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[1] The numbers in parentheses refer to pages of appellants' appendix.

STATUTE INVOLVED

SEC. 4915. R. S. (U. S. C., title 35, sec. 63.) Whenever a patent on application is refused by the Board of Appeals or whenever any applicant is dissatisfied with the decision of the board of interference examiners, the applicant, unless appeal has been taken to the United States Court of Customs and Patent Appeals, and such appeal is pending or has been decided, in which case no action may be brought under this section, may have remedy by bill in equity, if filed within six months after such refusal or decision; and the court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim or for any part thereof, as the facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the commissioner to issue such patent on the applicant filing in the Patent Office a copy of the adjudication and otherwise complying with the requirements of law. In all cases where there is no opposing party a copy of the bill shall be served on the commissioner; and all the expenses of the proceedings shall be paid by the applicant, whether the final decision is in his favor or not. In all suits brought hereunder where there are adverse parties the record in the Patent Office shall be admitted in whole or in part, on motion of either party, subject to such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court may impose, without prejudice, however, to the right of the parties to take further testimony. The testimony and exhibits, or parts thereof, of the record in the Patent Office when admitted shall have the same force and effect as if originally taken and produced in the suit.

APPELLANTS' APPLICATION

The appellant's application here involved (85) relates to an apparatus for folding a long strip of sheet material such as cloth or paper into a number of sections of equal length and laying them, one above another, on a table. As shown generally in Fig. 1, the apparatus includes a carriage 12 which is adapted to move back and forth on a table 14, the movement of the carriage being guided by the track 34. The pile of fabric 16, which is to be folded, is supported on the carriage and the end of the fabric passes over the guiding elements 38 and 42 and down to the table. The carriage is also provided, as best shown in Figs. 10 and 11, with a U-shaped device 44 for laying the fabric on the table. As shown in Fig. 11 this device has just completed its movement to the right and the members 256, 288, which are mounted on arms pivoted on a frame at the right-hand end of the table have dropped onto the fabric which lies on the lower horizontal arm 182,304 of the U-shaped device to form a fold in the fabric. When the carriage moves to the left the U-shaped device is withdrawn from the fold, which is held by the member 288. Just before the carriage reaches the left-hand end of its travel the U-shaped device is rotated 180 degrees in a counter-clockwise direction so that the open side of the U faces toward the left, and a fold is then made at the left-hand end of the table in a manner similar to that already described.

Since the folding device must always be above the pile of fabric on the table, it is necessary to raise it gradually as layers of fabric are placed on the pile. This is done by a chain 78 which is connected to the folding device as shown in Fig. 10 and which passes over an upper sprocket 80 as shown in Fig. 3 and a lower sprocket 82, shown in Figs. 4 and 5. A pawl and ratchet mechanism, actuated by the movement of the carriage serves to turn the sprocket 82 and elevate the folding means gradually as the pile of fabric on the table rises.

THE CUTTER PATENT

The patent to Cutter No. 1,866,088 shows a fabric folding device similar to that of the appellants and comprising a carriage 11 movable along a track 8 on the table 7. The fabric is supported on this carriage in the form of a roll or a bolt, and the end of the fabric passes over guiding means 20 to the table. The folding is effected by a device, shown in Figs. 4 and 5, the details of which are not material here. This device has threaded engagement with a vertical screw 27 (Figs. 1, 2, and 4) so that it may be elevated by rotation of the screw. By means of a pawl and ratchet mechanism 34, 35 the carriage rotates the screw and raises the folding mechanism enough to compensate for the increasing height of the pile of fabric.

The appellants allege that this patent is inoperative because the carriage will not pass over the end member 9. While the drawing of the patent shows this member slightly higher than the bottom of the carriage, it is clear that the carriage is intended to pass over it, and the member, therefore, would obviously be made somewhat lower than it is shown in Fig. 1 of the patent.

THE SCHNEIDER PATENT

The patent to Schneider No. 2,203,970 discloses a folding device of the general type shown by the appellants' application and by the Cutter patent. The feature of the Schneider patent which is relied on here is best shown in Fig. 7 and comprises a chain 36 which passes over upper and lower sprockets 35 and 32, respectively, and which is connected at 37 to the folding means, so that, by rotating one of the sprockets, the folding means may be moved up to keep pace with the pile of cloth. In this patent the sprocket must be rotated manually instead of automatically as in the devices of appellants and the Cutter patent.

THE SUSSMAN ET AL. PATENT

The patent to Sussman et al., No. 1,257,421, hereinafter referred to as Sussman, shows a fabric folding device comprising a carriage 11 movable on rollers 12 along a table 13. The cloth to be folded is supported on the platform 14 on the carriage and the end of it passes between two spaced horizontal bars 22 and 23 and thence to the table. These bars are provided along one edge with spaced notches 24, 25, and are rotatably mounted at their ends in vertically movable blocks 29. These blocks are moved vertically by worms 32 and mechanism (36–43) is provided for rotating these worms slightly each time the carriage reaches the left-hand end of its travel, thus elevating the blocks 29 and the bars 23, 24. These bars carry, at their ends, gear wheels 28 which may be rotated by rack bars 31. The ends 58 and 60 of the rack bars engage the uprights 59 and 61, respectively, as the carriage reaches one end or the other of its movement and the gear wheels 28 are thus rotated to turn the bars 22, 23 so that their notched sides face toward the end of the table which the carriage is approaching. This turning of the bars produces a fold in the fabric and the member 48 then drops so that the teeth 50 thereof pass through the slots in the upper bar and hold the folded fabric in place, permitting the folding device to be withdrawn. This procedure is repeated at each end of the table as the folding is continued.

SUMMARY OF ARGUMENT

1. The lower court properly dismissed the complaints as to claims 58 to 63, inclusive, without considering those claims on their merits.

2. Claims 49 to 55, inclusive, are unpatentable over the Sussman patent.

3. Claims 74, 76, 77, 78, and 79 are unpatentable over the Cutter patent in view of the Schneider patent.

ARGUMENT

The trial court, in its third finding of fact (24) found that claims 58 to 63, inclusive, had not been entered in appellants' application, were not rejected by the primary examiner and were not considered on their merits by the Board of Appeals. The court therefore concluded (27) that those claims were not properly before it for consideration on their merits. The third finding of fact is clearly supported by the record which shows (135) that the examiner refused to enter the amendment containing claims 58 to 63, inclusive, and that he did not reject those claims although he did gratuitously state that he considered them unpatentable. The Board of Appeals (Appendix, page 177, line 8 et seq.) refused to consider the claims at all, and expressed no opinion whatever as to their patentability.

It is settled that the refusal of a patent, referred to in R. S. 4915, must be a refusal on the merits, and that an action will not lie under that section from a refusal based on procedural grounds only (*Shoemaker* v. ***Robertson,*** 60 App. D. C. 345, 54 F. 2d 456; ***Butterworth*** v. ***U. S. ex rel Hoe et al.,*** 112 U. S. 50). In the last-cited case the court said:

> The remedy by bill in equity under section 4915 is not appropriate, because it applies only when the Commissioner decides to reject an application for patent on the ground that the applicant is not, on the merits, entitled to it.

Further, R. S. 4915, so far as it relates to ex parte matters, is limited to cases in which a patent is refused by the Board of Appeals. There is no provision in that section for a review of a decision of the primary examiner which has not been passed on by the board. Accordingly, even if the examiner's volunteered statement that he did not consider the unentered claims 58 to 63 patentable amounted to a refusal of a patent on the merits, by him, the case still would not come within the provisions of the statute.

In the cases of *Lucke* v. *Coe,* 63 App. D. C. 61, 69 F. 2d 379, and *Cherry-Burrell Corporation* v. *Coe,* 79 U. S. App. D. C. 124, 143 F. 2d 372, this Court held that claims not considered on their merits by the Patent Office could not properly be considered under R. S. 4915. In *Lucke* v. *Coe,* the claims proposed to the court had not been presented to the Patent Office, but in the *Cherry-Burrell* case, as in the present one, the claims had been presented in an amendment which the examiner had refused to enter and had been refused consideration by the Board of Appeals. Also, although it is not expressly stated in the decision, the record in the *Cherry-Burrell* case, at page 54 of the appendix, shows that the primary examiner in refusing to enter claim 57, stated as a reason for his refusal that the claim was not supported by the disclosure of the application. This statement, if it had been in the form of a rejection, would have been an action on the merits. There was thus exactly the same type of refusal of claim 57 in that case as there is of claims 58 to 63 in the present one and the Cherry-Burrell decision is directly in point and should be controlling here.

It is accordingly submitted that the complaint was properly dismissed as to claims 58 to 63 without consideration of their merits.

CLAIMS 49 TO 55, INCLUSIVE

Each of these claims is thought to be fully met by Sussman. Thus, comparing claim 49 with this patent, it will be found that Sussman shows a machine of the type called for, including a carriage 11 for movement relative to the surface of table 13, the carriage having means comprising rollers 16 to 20, inclusive, and bars 22 and 23 for guiding the fabric upon the surface and forming the end folds of the layers. The end posts 59 and 61 of Sussman provide means for limiting the movement of the carriage relative to the table surface, the teeth 50 or 51 of bars 48 and 49 are the means for gripping a fold distended by the end folding means and the pivoted bars 46 and 47 are the means for guiding these teeth into the end fold forming means at the limit of the carriage movement.

Claim 49, therefore, is broad enough to be literally readable on the Sussman patent and hence was properly rejected thereon.

Claims 52 and 53 are also similar to claim 49 but additionally recite means for elevating the fold forming means as the pile of fabric rises. Sussman provides such means in the form of the worm 32 which as above explained, is actuated by the carriage movement to elevate the bars 22 and 23.

Claim 54 is similar to claim 58 with the recitation of additional means for reversing the direction of the fold forming means when the carriage reaches its limit of movement. The gear wheels 28 and rack bars 31 of Sussman provide such means.

Claim 55 includes both the elevating means of claim 53 and the reversing means of claim 54. Since, as above explained, both these means are shown by Sussman, claim 55 as well as claims 49, 52, 53, and 54 is fully met by that patent.

Claims 50 and 51 are also thought to be unpatentable over Sussman. These claims include a statement that the folding means is U-shaped, but the two spaced bars 22 and 23 of Sussman are fully equivalent to this arrangement in function and substantially equivalent to it in structure. The broad reference to a U-shaped member, therefore, defines nothing patentable over Sussman.

These claims are also unpatentable over Isaacs 1,338,570, which shows an apparatus of the general type claimed, including a U-shaped folding member (22, 23, etc., Fig. 3), in view of Isaacs 819,548. It would not require invention, in view of the latter patent, to provide the device of the former with stop means and with automatic, instead of manual means for elevating the folding means as the pile of folded fabric rises.

The issue involved throughout this case is simply whether certain mechanical changes are of such a nature that a skilled mechanic could think of them, or whether they required the exercise of inventive genius. This is a matter which the tribunals of the

Patent Office are peculiarly fitted to pass upon, and their conclusions are therefore entitled to great weight (*Abbott* v. *Coe,* 71 App. D. C. 195, 109 F. 2d 449; *Forward Process Co.* v. *Coe,* 73 App. D. C. 100, 116 F. 2d 946; *Krause* v. *Coe,* 74 App. D. C. 47, 120 F. 2d 717; *Minnesota Mining and Mfg. Co.* v. *Coe,* 73 App. D. C. 146, 118 F. 2d 593). In the cases just cited it was held that the question to be decided in actions under R. S. 4915 is not whether, in the independent judgment of the Court, invention is present, but whether the Patent Office finding that there was no invention is consistent with the evidence. In the present case it is thought that this finding not only is consistent with the evidence but that it is the only one which could properly have been made.

Appellants have sought to establish that the structures shown by several of the references are inoperative. The attacks made by the witness Deickmann, who is one of the appellants, were theoretical and speculative. The witness admitted (82) that he had never tried to build a machine in accordance with any of the reference patents and he further admitted (74 et seq.) that he had seen operative machines generally similar to those of several of these patents. Under these circumstances, his testimony as to possible defects in the operation of the references is not convincing. Even where an interested witness has tried and failed to make a reference structure operate, the evidence is inconclusive (*Bullard* v. *Coe,* 79 U. S. P. Q. 369, 147 F. 2d 568).

A device shown by an issued patent is presumed to be operative, and this presumption is not to be overcome by speculation by an interested witness as to why the device might not work. Further, a patent is addressed to those skilled in the art, and such persons are able to correct minor defects. The matters referred by the witness were generally of this nature. It should be borne in mind that the drawings of patents are not working drawings made to scale. It is sufficient if the disclosure is of such a nature as to enable one skilled in the art to make and use the thing patented. It is thought to be clear that, with the possible exception of the Isaacs patent No. 819,548 the disclosures of the reference patents are operative. That patent is relied on only as a secondary reference in the rejection of certain claims, to show stops for the carriage and automatic means for elevating the folding device. These features are not the ones in which the alleged inoperativeness resides. For the reasons given, it is not thought that it would be profitable to treat the various alleged points of inoperativeness in detail.

CLAIMS 74, 76, 77, 78, AND 79

These claims have been rejected on Cutter in view of Schneider. They are very similar to each other and the same features are relied on in support of the patentability of all of them. Accordingly it is not necessary to discuss all of them in detail. By way of example, the rejection will be explained as applied to claim 74, which is typical of the claims of this group, and it will be understood that this explanation is also applicable to the remaining claims of the group.

Comparing claim 74 with the Cutter patent it will be seen that the patentee provides a machine for spreading sheet material as recited in the first clause of the claim. The second clause of the claim calls for guiding the material to the position where the layers are to be formed. This is the carriage 11 of Cutter, mounted on the track 8. The claim next calls for means for spreading the material and forming end folds therein. This is the folding mechanism which is mounted on the carriage and illustrated in detail in Figs. 4 and 5 of the patent. The next element recited is means for lifting and lowering the spreading and folding means. This is the screw 27 of Cutter which is rotated by a pawl and ratchet mechanism when the carriage reaches the right-hand end of its movement.

The remainder of the claim relates to the structure of the lifting and lowering means. In the Cutter patent, as already noted, this means is in the form of a screw, whereas the claim recites a band (chain) passing over rotatable members and means for imparting a step-by-step movement to one of the members. This is merely an obvious substitution of one well known mechanical movement for another. The patent to Schneider shows the use of such a band or chain 36 (Fig. 7) in the exact relationship in which it is employed by the appellants, namely for raising the folding head of a fabric folding device to compensate for the rise in the pile of fabric. It would be a very simple matter to use a chain such as that of Schneider in place of the screw 27 of Cutter. It would merely be necessary to replace the screw by a chain mounted on upper and lower sprockets, the sprockets being located at the points where the upper and lower ends of the screw are shown in the Cutter patent, the lower sprocket being rotated by the pawl and ratchet mechanism which Cutter employs for rotating the screw 27. This would involve no mechanical difficulty and would not materially change the operation of the device, and the resultant structure would fully anticipate the claims of the group under consideration.

It is evident that a patent should not be granted whenever it is found convenient to substitute one common mechanical expedient for another. The patentee Cutter and others using his device are entitled to make such obvious changes as may be desirable without paying royalties to subsequent patentees. If they consider that, under some circumstances, a chain such as is shown by Schneider would be preferable to the screw 27 of Cutter, they should be free to use it. Invention is not involved in replacing one recognized mechanical equivalent by another unless some unexpected result is obtained thereby. No such result is produced in the present case. It is submitted, therefore, that claims 74, 76, 77, 78, and 79 call for nothing beyond the province of a mechanic of ordinary skill, and that the complaint was properly dismissed as to those claims.

CONCLUSION

For the reasons given it is submitted that the findings of fact made by the lower court find ample support in the record, that the conclusions of law are entirely correct, and that the decision appealed from should, therefore, be affirmed.

Respectfully submitted.

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